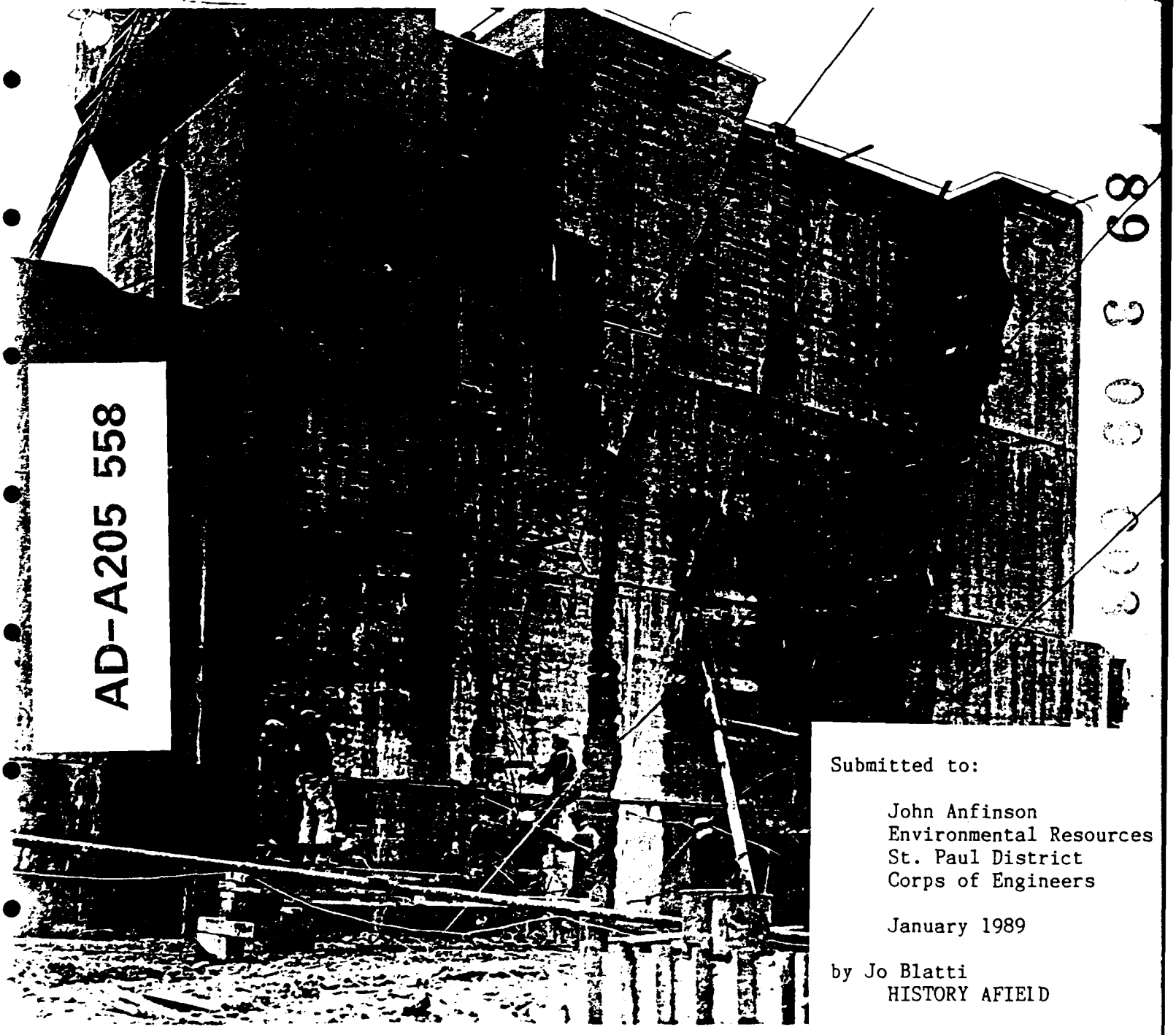
HISTORY AFIELD

FINAL
PHASE II PILOT INTERVIEWS
ORAL HISTORY OF THE
MISSISSIPPI LOCKS & DAMS NOS. 3-10
DACW 37-87-M-1503



Submitted to:

John Anfinson
Environmental Resources
St. Paul District
Corps of Engineers

January 1989

by Jo Blatti
HISTORY AFIELD

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19 ABSTRACT (Continue on reverse if necessary and identify by block number)

This report documents oral history field research conducted for the U.S. Army Corps Engineers, St. Paul District. The general subject of these interviews is the construction of locks and dams in the 9-foot channel system on the Mississippi River, specifically locks and dams nos. 3-9, built under the supervision of the St. Paul District from 1930-1938. The interviews consider four broad areas of historical inquiry: Corps history, staffing and work conditions; community relations; environmental and other special interest activism; engineering as profession.

Readers are referred to the preceding section, phase I literature review for a complete account of preparatory research methods, sources and historical background on the 9-foot channel project.

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Introduction

This report documents oral history field research conducted for the U.S. Army Corps of Engineers in June 1988. The general subject of these interviews is the construction of locks and dams in the 9-foot channel system on the Mississippi River, specifically locks and dams nos. 3-9, built under supervision of St. Paul District personnel from 1930 to 1938. The interviews consider four broad areas of historical inquiry: Corps history, staffing and work conditions; community relations; environmental and other special interest activism; engineering as profession.

Altogether, the 9-foot channel installations under St. Paul District purview include: no. 3 Red Wing, MN; no. 4 Alma, WI; no. 5 Minnesota City, MN; no. 5A, Winona, MN; no. 6 Trempealeau, WI; no. 7 LaCrescent, MN; no. 8 Genoa, WI; no. 9 Lynxville, WI; no. 10 Guttenberg, IA (transferred into St. Paul District following construction by Rock Island District). The installations specifically discussed in this pilot project are nos. 2, 3, 4, 5 and 7.

This interview series is a pilot project for the Corps, which has not conducted any previous research with 9-foot channel "veterans". Persons interviewed for the pilot project were:

* Elmer J. Christenson

  Civilian engineer with the St. Paul District, 1927-1960s. Worked on lock & dam complexes 2, 3, and 4

* Frank A. Daly

  Civilian engineer with the St. Paul District, 1932-1960s. 9-foot channel assignments included design work on dredge Cahaba, inspection at nos. 4 and 5

* Joseph McDonald

  Retired contractor. Worked for Nolan Bros., contractors for lock no. 7, 1934-35.

Phase II of this report is divided into the following sections:

-- overview

-- research design

-- summary pilot interview findings

-- notes on the interviews

-- recommendations and conclusion

-- references

-- list of figures

-- appendix A, containing transcripts, tape indexes, summaries and interview schedules

-- appendix B, containing scope of work, project correspondence and resumes.

A popular report is in preparation under separate cover.

Overview

Readers are referred to the preceding section, phase I literature review, for a complete account of preparatory research methods, sources and historical background on the 9-foot channel project. To summarize briefly here, the idea of a mechanically dammed slackwater canal on the Mississippi between Minneapolis-St. Paul, Minnesota and St. Louis, Missouri, began to be discussed in the 1920s. Earlier 4 1/2-foot and 6-foot channels, accomplished by the construction of wing dams and dredging, proved inadequate to the demands of commercial and recreational navigation on the Upper Mississippi. The river remained be-deviled by low water and snags. Though a controversial approach, the 9-foot project enjoyed the support of prominent Upper Midwest businessmen and politicians, and it was authorized by the Rivers and Harbors Act of 1930. An important source of Depression-era employment for residents of Minnesota and

Wisconsin communities along the river, lock and dam construction was funded via federal relief appropriations through 1935. Subsequent appropriations were made through Rivers and Harbors Acts.

An estimated 5000 people worked on the St. Paul District section of the channel at its peak in the mid-1930s: Corps supervisory and inspection personnel; the contractors' "key men"; locally hired work crews. Dozens of contractors throughout the Midwest and the Northeast bid and built sections of the project. Payrolls at individual sites averaged approximately 600 each. Communities up and down the river made room for large-scale construction and large numbers of transient residents. Railroads, municipal utilities and environmental groups also participated in aspects of the 9-foot planning and construction.

Research in preparation for the oral histories was conducted at the Corps of Engineers offices, St. Paul District, individual lock and dam facilities, the Minnesota Historical Society, Goodhue County Historical Society, Winona County Historical Society and the Area Regional Collection, University of Wisconsin-LaCrosse. A complete list of sources, both those located and those consulted is appended to the phase I literature review. The construction histories compiled for each lock and dam facility by the Corps staff in the 1930s, the literature concerning engineering as a profession, the Historic American Engineering Record survey commissioned by the St. Paul District in 1987, and two collections of oral history located at Winona County and the Minnesota Historical Society, respectively, influenced the research design for the pilot project most significantly.

On the basis of available sources, four broad areas of interest were identified for the pilot oral histories: Corps history and construction history, community relations along the river; environmental and other special

interest activism; engineering as a profession. As reported in the preceding literature review, most of the 68 persons referred for oral history interview fall into two of the general categories:

* Corps history

  This includes both construction and historic/on-going operations of the locks and dams. Approximately 75% of the total referrals come under this category; most are skilled workers or managers. Many have been interviewed in the Winona County, MN-Buffalo County, WI oral history series archived in Winona.

* Community relations

  From Alma, WI to Guttenberg, IA, sixteen community historians (official and unofficial) were referred by staff at the lock & dam facilities. These constitute the remaining 25% of the total referrals. None of these persons has been interviewed elsewhere.

Three referrals -- Daly, Christenson and McDonald showed up in "Engineering," a sub-category of Corps history. And one person, a longtime employee of the Fish and Wildlife Service, also interviewed in the Winona County project, appeared in the "Environmental" category, a research area that remains less developed than the other three categories due to thiness of easily available historical records and time-money constraints of the pilot project budget.

Research design

Per the recommendations made in the 9-foot channel literature review submitted to Environmental Resources staff in May 1988, the pilot interviews were conducted with the 3 professional engineers and contractor in the engineering sub-category. All three were among the oldest individuals

referred, and they held notably responsible positions in 9-foot channel project compared to electricians, brush-cutters, concrete workers and other skilled to semi-skilled workers. Also, none had been interviewed previously.

5 hours, 10 minutes of interview were collected in the pilot series. The Christenson and McDonald interviews, totalling 3 hours, 10 minutes, were transcribed in their entirety and are appended to this report. The Daly interview was indexed only due to budget limitations. All three interviews are summarized and evaluated in the following sections.

Note: originally, the phase II scope of work called for seven interviews in the pilot series. However, the scope was amended to 2-3 interviews in consultation with Corps Environmental Resources staff. This change was made because the phase I literature review entailed considerably more primary research than anticipated by either client or contractor.

Fieldwork was conducted in June of 1988. Messrs. Christenson, Daly and McDonald were interviewed in their homes in the metropolitan Twin Cities area. Two basic interview schedules were developed for the pilot conversations, one probing the civilian engineer careers of Christenson and Daly at the St. Paul District Office, the other concerning the contractor's perspective on 9-foot channel construction. The schedules [appended] include sections of inquiry concerning general biographical information, formal education and on-the-job training, individual duties at lock and dam construction projects; knowledge of PWA aspects of 9-foot funding and construction; specific problems and incidents mentioned in the construction histories.

Summary Pilot Interview Findings

I. Elmer Christenson

> It had never been done before in the St. Paul District, of course. Either a Tainter gate or a roller gate....[We] just followed the plans...and they worked. (EC p. 20)

Mr. Christenson's memories of the 9-foot channel project are characterized by a matter-of-factness. Obviously proud of his association with the Corps (EC p. 45), it almost seems as if the predictable, and to him unremarkable, physical principles he dealt with in his work as an engineer shaped other aspects of his life as well.

To give a brief overview, Mr. Christenson joined the St. Paul District staff as a civilian engineer almost immediately upon graduation from the University of Minnesota engineering program in 1927. He remained with the Corps until retirement in the mid-1960s. He spent most of his first years with the Corps on 9-foot channel projects, working on design and construction at no. 2 [Hastings, MN], dredging at Lynxville, WI and as resident engineer at nos. 3 [Red Wing, MN] and 4 [Alma, WI]. He wrote the construction histories for nos. 3 and 4 plus an article on the foundation at no. 3 for the professional journal Civil Engineering.

Mr. Christenson did not impart detailed information in areas such as public discussion of 9-foot planning and construction (EC p. 8), stories of day-to-day operations at project sites (EC p. 10) or interactions with interested parties such as townspeople in host communities (EC p. 15, 26), contractors' key men (EC p. 23) or railroad and environmental interests (EC p. 15). It appears that Mr. Christenson simply is not of an anecdotal turn of mind.

However, several of his observations, particularly those concerning 9-foot channel design, the University of Minnesota "connection" and materials testing shed light on questions posed in Patrick O'Brien's HAER report. As regards design, Mr. Christenson confirms the importance of the Corps' Ohio River project in developing the later Mississippi River locks and dams. He does so as a participant who spent 6-7 months on temporary duty in the Cincinnati District Office during 1927-28, working on design for no. 2 for the St. Paul

District (EC pp. 5-6). In Elmer Christenson's recollection, the St. Paul District then established a design section of its own for 9-foot specifications during construction of no. 2: this office was headed initially by Hibbert Hill (EC pp. 11-12).

As regards a University of Minnesota "pipeline" into the St. Paul District Office, Christenson notes that almost everyone in his graduating class who got a job did so in Corps offices and highway departments via some sort of civil service exam (EC p. 3). There were few opportunities in private practice at the time, and apparently, little in the way of professional "mentoring" or placement in these public service situations.

As regards, Hibbert Hill, a locally well-known engineering figure who appeared in the Corps Headwaters interviews as well, he was apparently a young whiz kid, only a few years senior (EC p. 4) to the entry level civilians such as Christenson and Walters[1], who were attracted to the St. Paul District in part by his presence on the staff.

As regards testing of materials, a prominent feature of the 9-foot channel project specifications and the construction histories, this appears to have routine rather than a matter of special concern (EC pp. 29-30).

II. Frank Daly

As noted above, Mr. Daly's interview was not transcribed due to budget limitations. This summary will note some of the ideas and topics contained therein.

The narrative thread for much of the interview, a subject that is returned to again and again, is an apparent reduction in pay upon entry into service with the St. Paul District in 1932 which persisted for several years. It is not entirely clear how much this reduction was due to Depression conditions, a run-in with John Wade, the long time chief clerk for the St. Paul District, or

other factors not identified in the interview. [Note: for further background on Wade's situation with the Corps in this period, see Merritt, pp. 187-205.][2]

In terms of engineering as a profession, Mr. Daly gives a detailed account of his thinking as a young man regarding engineering, medicine and journalism as possible professions (FAD tape 1, side 1). His recollections of early jobs with the Elgin, Joliet Railroad, the Interstate Commerce Commission and the Division of Airways are equally detailed, giving a nice sense of corporate and bureaucratic options that were available following his training at the University of Minnesota (FAD tape 1, side 2). There's a lovely sense of how an ambitious young man saw his opportunities, sometimes incorrectly in the case of the ICC. Daly also gives an extended description of family considerations that led him back to Minnesota and the 9 foot channel: both his mother and his bride-to-be, courted on the East Coast, were based in the Twin Cities (FAD tape 2, side 1).

Daly's discussion of Corps work in the St. Paul District is much less detailed than his descriptions of earlier positions. Besides the Wade/reduction-in-pay situation, he repeatedly expresses concern about working for guys who were not [trained] engineers at the Corps, one Smoker in particular (FAD tape 2, side 2). Specific work experiences such as design for the dredge Cahaba and inspection at lock and dam nos. 4 and 5 are noted, but not elaborated upon. The Corps of Engineers sections are marked by notably ambivalent statements such as "engineers are smart people who make a lot of mistakes" (FAD tape 2, side 1), strong personal feeling about individuals such as Wade and Smoker and repeated expressions of concern about how his statements might be received.

III. Joseph McDonald

> These kinds of jobs, regardless of size, are routine as far as a contractor is concerned...[T]he biggest problem is capacity to handle it financially and experience in handling crews above normal size and be able to direct the activities of a lot of men. (JMcD p. 39)

From his perspective on the financial and management end at Nolan Brothers, contractors for the lock at no. 7, Joseph McDonald provides an alternative view of the 9-foot channel project. In his recollection, the PWA workers posed a problem; overall, Nolan found them less skilled than the standing labor pool employed by big-time contractors on a regular basis (JMcD pp. 5, 18, 23-24) and the extra time ate up the profit margin for the job. In fact, Mr. McDonald indicates that the extra costs incurred through use of relief labor as distinct from freely chosen mechanics were the basis of a lawsuit filed against the Corps by several 9-foot contractors in the late 1930s (JMcD pp. 20-21). To the best of his recollection, the contractors' suit was terminated, without issue, at the outset of World War II.

In terms of Corps inspections and work relations, McDonald suggests that the project engineer for no. 7 was difficult to work with in some respects; his memories include Nolan Brothers consultation with the man's immediate superiors in St. Paul (JMcD pp. 18, 22, 37-38). This appears to have been partly a matter of personality or personal style. Other, junior, engineers on the 9-foot project, are described as reasonable guys. By way of broader context, Mr. McDonald notes that lock no. 7 was the first Corps contact for Nolan; the firm subsequently had others for World War II airbases. Many of his observations about 9-foot work relations are buttressed by examples from later jobs in New Mexico, Texas, and Oklahoma. McDonald specifically identifies the promotion system within the Corps and the movement of Corps personnel from place to place as important elements in the working relationship (JMcD ibid).

The McDonald interview gives a very clear picture of public works contacting in the 1930s. He describes how labor crews (JMcD p. 30) and equipment pools were assembled (JMcD pp. 8-9, 10-12), profit margins and bidding determined (JMcD p. 17). He also provides an informative description of the Nolan business: how highways in Montana and bridge work in Minnesota fit together, the company's scale of operations and so on (JMcD, pp. 13, 29, 30, 37, 39). Mr. McDonald describes the 1930s as a time of "lots of work" between the Corps project and Highway Department development (JMcD p. 14).

In terms of the 9-foot channel project specifically, McDonald "run [sic] into things I had never used before" (JMcD p. 8). One equipment consideration for no. 7 was the use of non-mobile derricks and the newer mobile cranes (JMcD pp. 7-8). He remembers no. 7 as a "huge yard" and describes the pumping system (JMcD p. 36). He also provides an excellent description of wintertime concrete work, noting that this had become routine by the time of 9-foot channel construction (JMcD pp. 25-27).

Finally, Mr. McDonald's reminiscences are peppered with autobiographical data and general observations that bear on professionalism and change within engineering in the 20th century. See pages 2-3, 30-31, in particular, for descriptions of his own experience and increased numbers of graduate engineers working in the field.

Note: Mr. McDonald's oft-repeated concern about heavy trucks "batting the hell" out of highways built for less concentrated loads seems eminently understandable given his own work experience (McD pp. 10, 27-29).

V. Notes on the Interview

The three interviews conducted for the Mississippi locks and dams pilot demonstrate an almost textbook distribution in terms of relative strengths and

weaknesses. Of the three, contractor Joseph McDonald's reminiscences show the strongest balance of general and particular, provide the richest context for interpretation. Mr. Daly's memoir, though fascinating in many respects, is essentially a monologue rather than the dialogue between narrator and interviewer sought in oral history. Though very accommodating to the interviewer, Mr. Christenson did not express engaged memory of particular details or broad general developments in the 9-foot channel project. In a sense, the pilot project highlights the limits of oral history methodology -- particularly when dealing with an interview universe with few surviving informants: our three possible narrators are not equally skilled informants.

Nonetheless, the interviews provide considerable corroborative data in relation to the Corps construction histories and in relation to one another. In combination, Elmer Christenson and Joseph McDonald supply Corps and contractor perspectives on the inspection-construction aspects of the project, though Mr. McDonald's account contains more anecdotal detail. Both Daly and McDonald describes career paths and structural opportunities open to young men of their day.

Some subtle shifts in emphasis may be indicated in interpretation of the HAER report and other recent data, pending further inquiry. Both McDonald and Christenson suggest that the testing and winter concrete construction techniques employed on the channel were standard procedures, not unusual. The interpretation of special haste and special care in construction probably deserves de-emphasis if corroborated in additional interviews.

Several of the observations made by pilot narrators bear further investigation. For instance, there is the matter of 9-foot channel design. Christenson recounts temporary duty in the Cincinnati office working on design

for no. 2. He then notes subsequent formation of a design section in St. Paul; Frank Daly makes a more offhand observation that the structures were designed in St.Louis. Given the leads Christenson supplies, it should be possible to check this point further in archival sources and possibly other interviews. The contractors' lawsuit Joseph McDonald discusses should be easily located in federal district court records; the depositions and financial statements entered into evidence should provide more detailed information about the issues of contention and the final disposition of the case.

Much in these interviews reinforces the impression of compartmentalization noted in the earlier Headwaters interviews for the Corps. (Note: See Blatti, Jo. Analysis and Interpretive Addendum Mississippi Headwaters Reservoirs Oral History Interviews. HISTORY AFIELD for Corps of Engineers, St. Paul District. Unpublished report. 1987. See also _____, Phase II Final Report Mississippi Reservoirs Oral History Interviews Pilot Project, 1987 and _____, Final Report Mississippi Headwaters Reservoirs Oral History Interviews Series II, 1988; both reports prepared for Corps of Engineers, St. Paul District by HISTORY AFIELD.) Narrators do not generalize easily across broad categories of inquiry and appear relatively unfamiliar with operations outside their own specialties. To give an example, none of the pilot narrators dealt directly with PWA workers. Of the three, only Joseph McDonald had any detailed comments about the PWA, and those concerned the relative inexperience of the locally hired construction crews. Since so many with PWA experience have been referred for interview, it should be relatively easy to probe for skill levels among their ranks.

Elmer Christenson makes two observations that may bear on the Daly interview. First, Christenson notes that he never had a paycut except the month without pay that all shared (EC pp. 43); secondly, one didn't have to be a college graduate to serve as an inspector on the 9-foot project (EC p. 18).

Seen in this light, the paycut and the reassignment from resident engineer to concrete inspector that so concern Daly may have been uniquely personal (and perhaps deliberately punitive) experiences.

VI. Recommendations and conclusion

Probably the most important recommendation overall is to initiate oral interview at the 30 or 40 year mark instead of the 50th anniversary. The pool of potential narrators -- particularly the more senior, powerful participantsin any project -- will be larger. A degree of selectivity will be possible in choosing narrators, also.

As regards the immediate 9-foot channel oral history possibilities, recommendations follow in order of priority.

1) Concentrate first level interview activity among Corps of Engineers referrals who have not been interviewed elsewhere.
2) Follow up on the three engineering/contracting referrals given by pilot narrators.
3) Go to community historians in the river towns for next order information. None of those referred have been interviewed in previous projects, and these are likely to be sole sources for community perspectives on the 9-foot channel construction activity.
4) Defer additional oral history with individuals interviewed in the Winona County - Buffalo County project until that collection has been assessed. There's no sense in collecting the same information twice.
5) Continue to solicit for engineers and other possible informants through Corps Old-Timers activities and notes in professional journals.
6) Continue to research the environmental aspects of the 9-foot channel project. Current members of the Izaak Walton League have suggested narrators who may be able to speak to 1930s events and issues.

Notes

[1]Walters, Wesley, p. 1-2 transcript in Jo Blatti. Final Report Series II Mississippi Headwaters Reservoir. Unpublished report prepared for Corps of Engineers St. Paul District. 1988.

[2]Merritt, Raymond H. Creativity, Conflict and Controversy: A History of the St. Paul District U.S. Army Corps of Engineers. Washington, D.C.: GPO. 1979.

Additional Referrals

from Frank Daly
Bill Schultz
worked on no. 4

from Elmer Christenson
Bill Darling
in Hawaii, back every summer

from Joseph McDonald
Carl Sehlin
5011 Woodlawn Blvd.
Minneapolis, MN
612/374-3628
one of concrete superintendents
construction lock no. 7

from Paul Toren, Izaak Walton League
Truman Ingersoll
So. Mpls. chapter
612/822-6822
90 yrs., very spry

Dr. Paul Zollman
Rochester
507/289-4442 (h)
281-4204 (o)
Was state president

Laurine & Reuben Stephan
Winona, MN

Willis Kruger
Reads Landing
nr. 90, worked in Forestry Dept.

Don Gray
67 East Howard
Winona, MN 55987
507/454-5940
Former manager refuge, president
Winona Chapter *

* Interviewed for That's River Lost project

List of Figures

Figure 1

Nine-foot channel system, showing locks & dams plus recreation areas
1980
Corps of Engineers

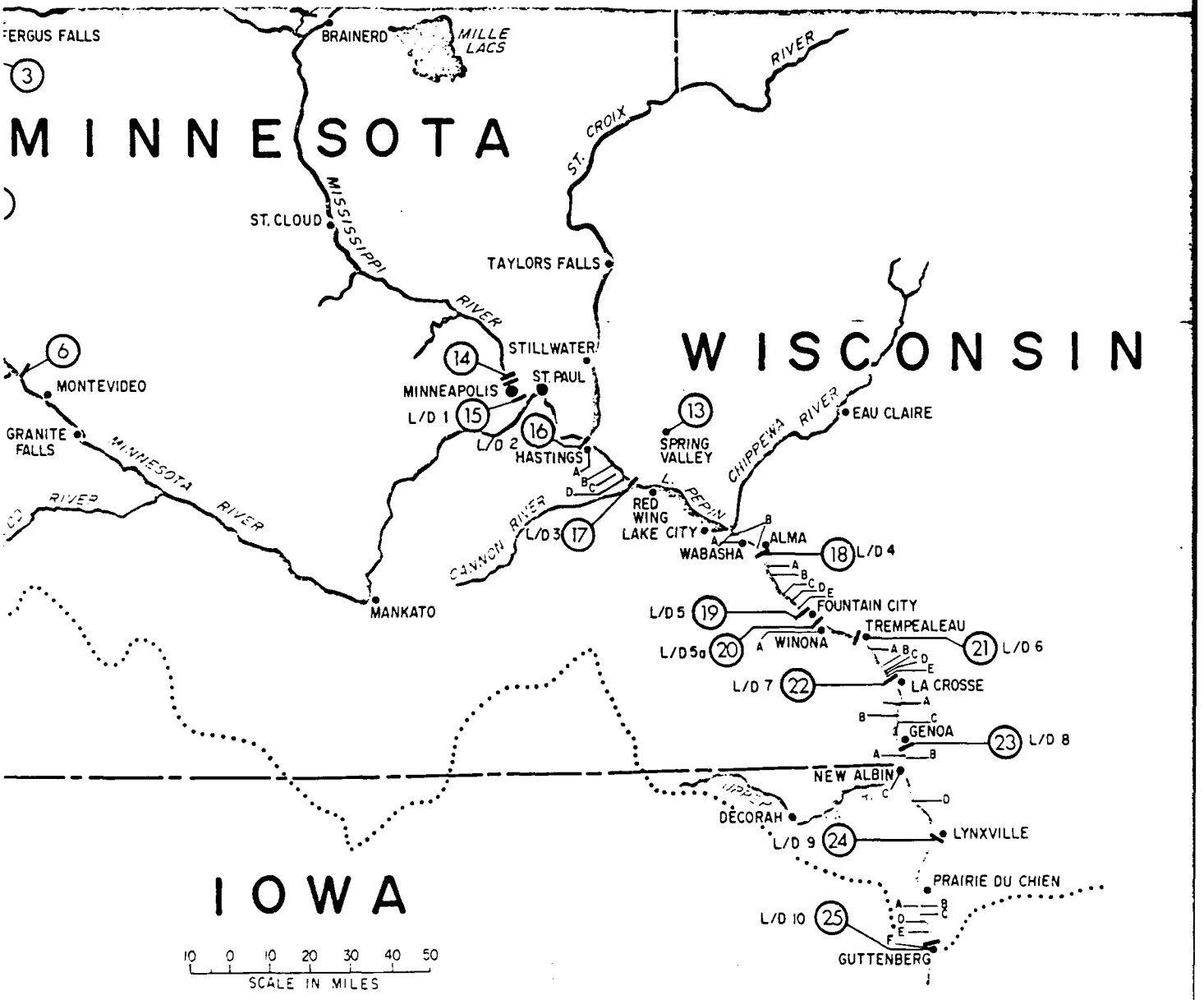
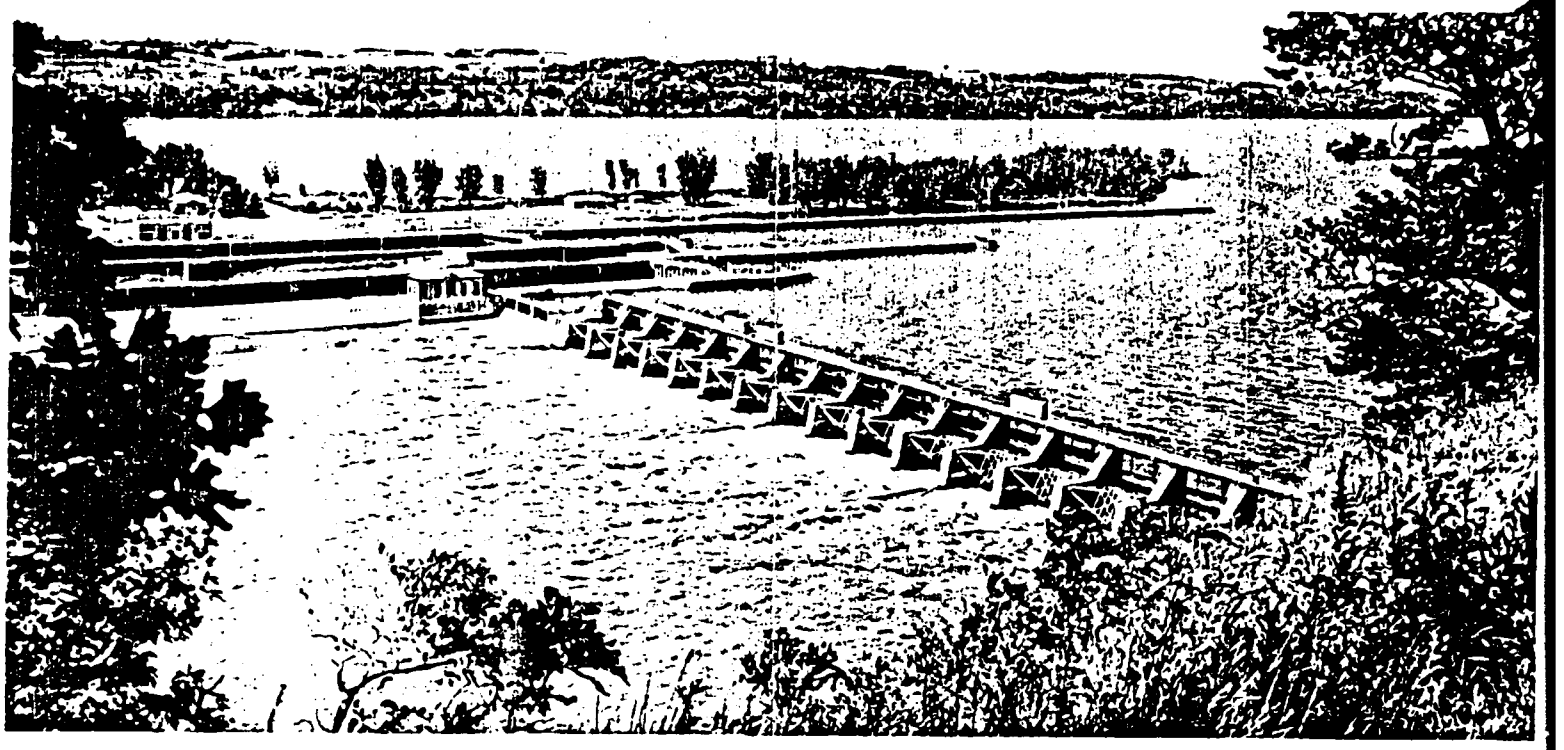


Figure 2

Lock & dam no. 2, Hastings, MN
1979
Corps of Engineers



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St. Paul, Minnesota 55101

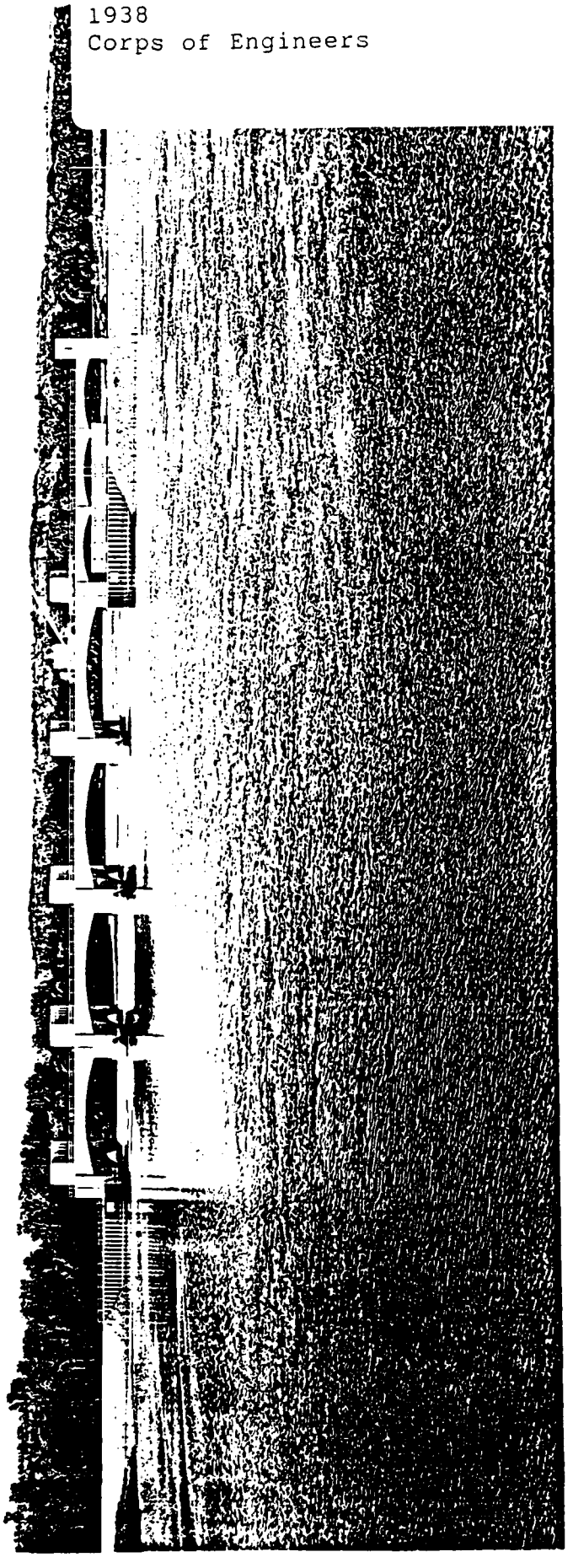
Lock & Dam No. 2

HASTINGS
MINNESOTA

U.S. GOVERNMENT PRINTING OFFICE 1979—666-409

Figure 3

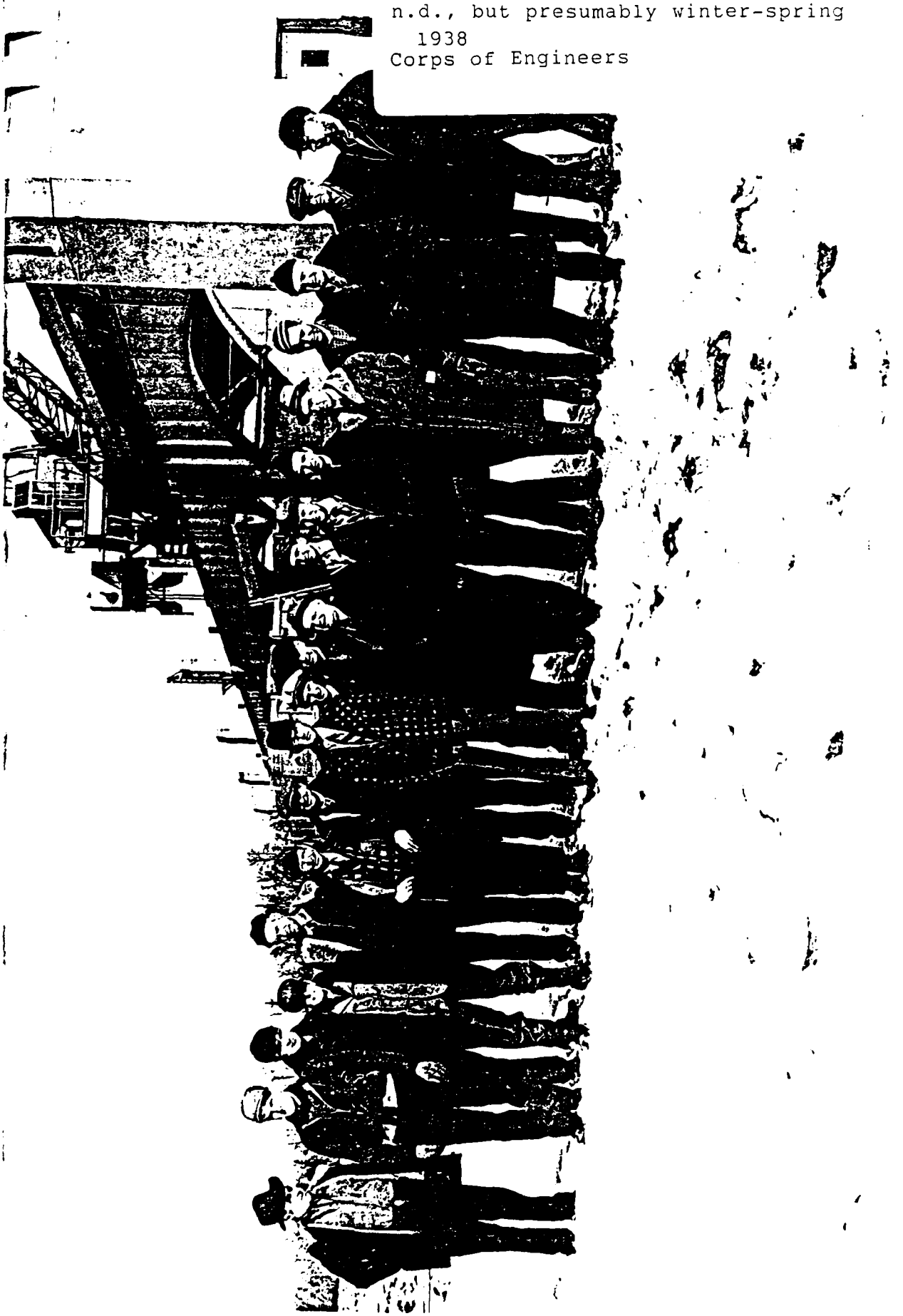
Lock & dam no. 3, Red Wing, MN
1938
Corps of Engineers



UPPER MISSISSIPPI RIVER - U. S. ENGINEER OFFICE, ST. PAUL, MINN. AUGUST 5, 1
DAM NO. 3, CONTRACT NO. W923 ENG. 1446 PHOTO NO. 1
COMPLETED STRUCTURE--GENERAL VIEW LOOKING DOWNSTREAM

Figure 4

Personnel, lock & dam no. 3
n.d., but presumably winter-spring 1938
Corps of Engineers



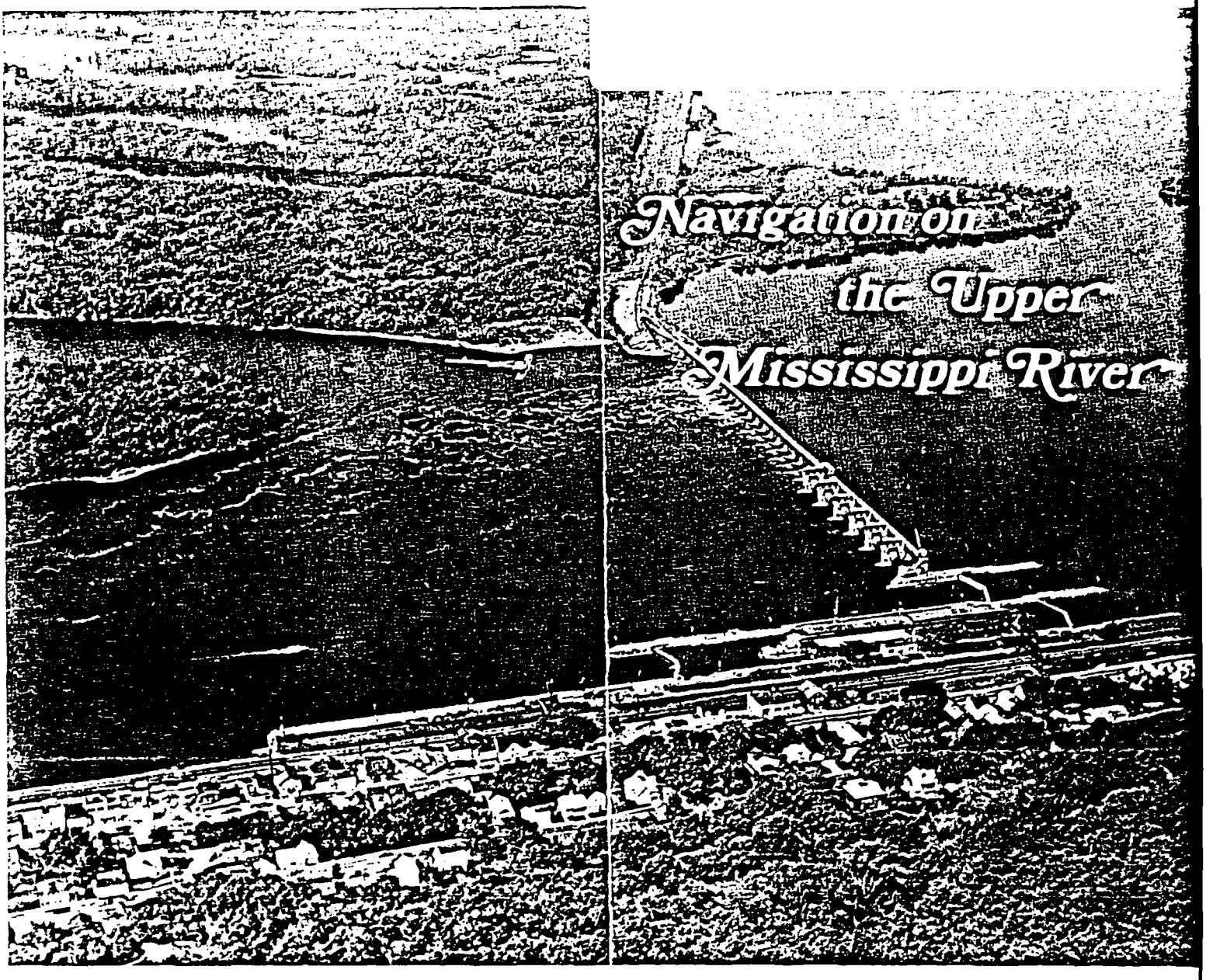


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Figure 6

Lock & dam no. 5, Minnesota City, MN
1935
Corps of Engineers

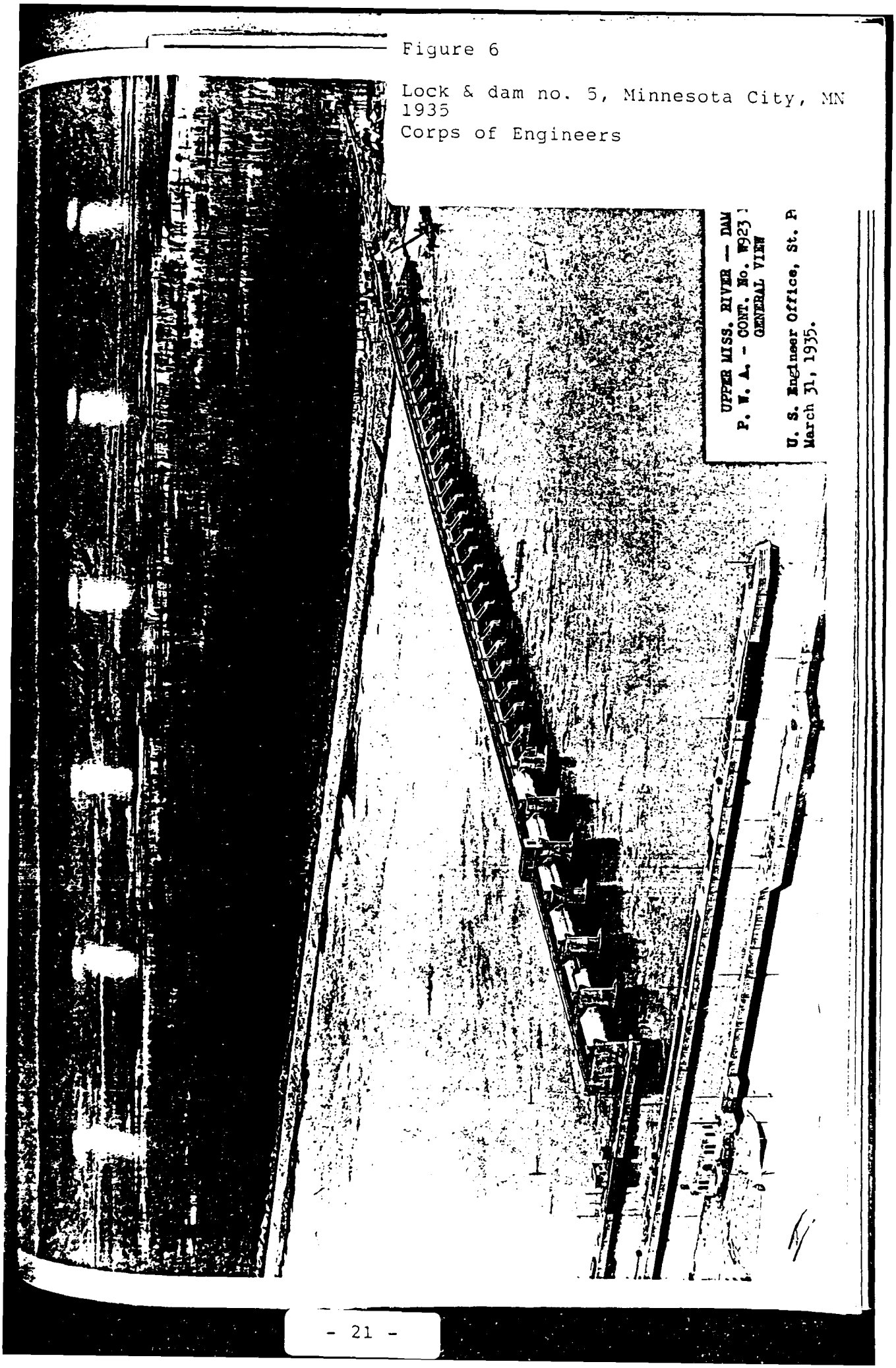
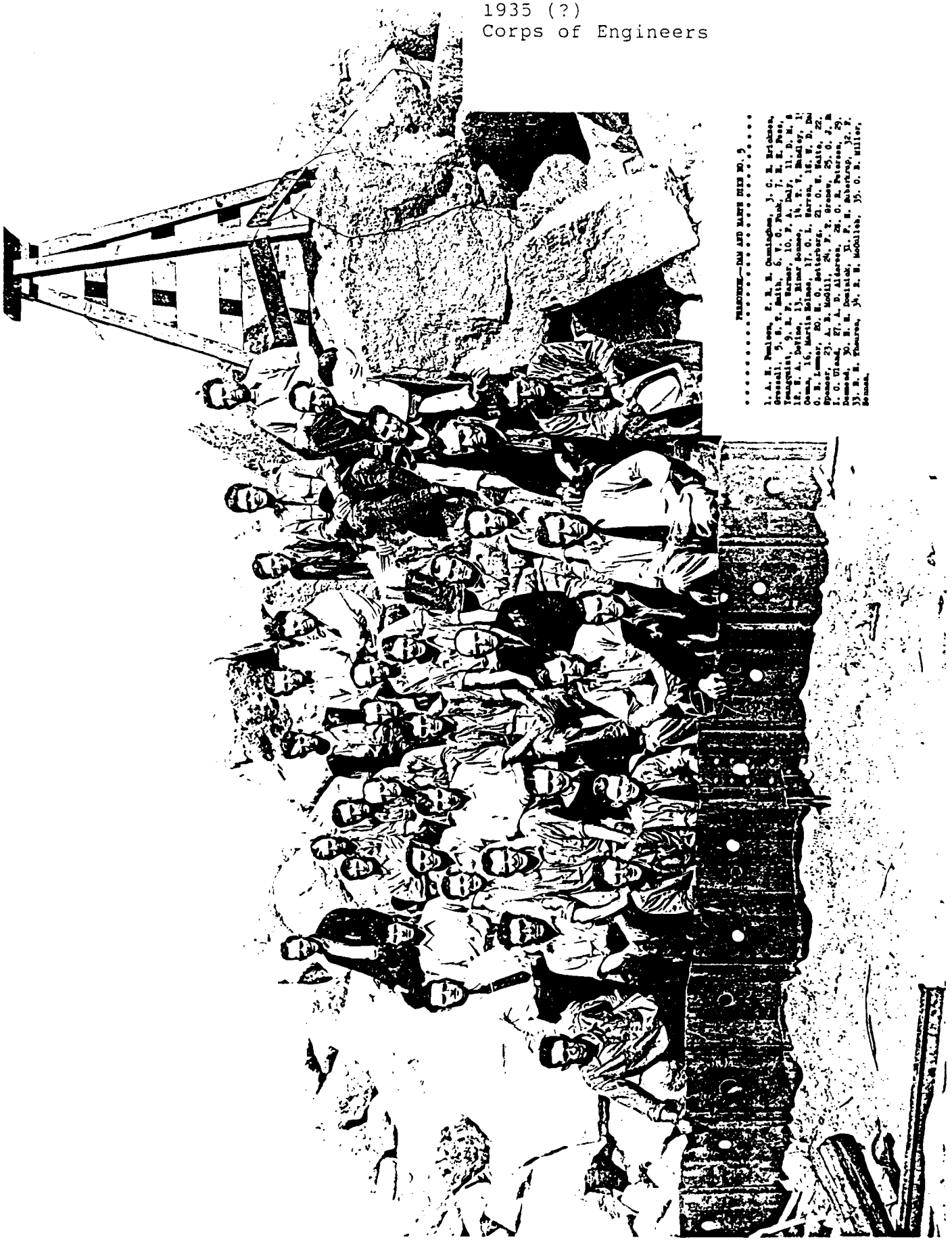
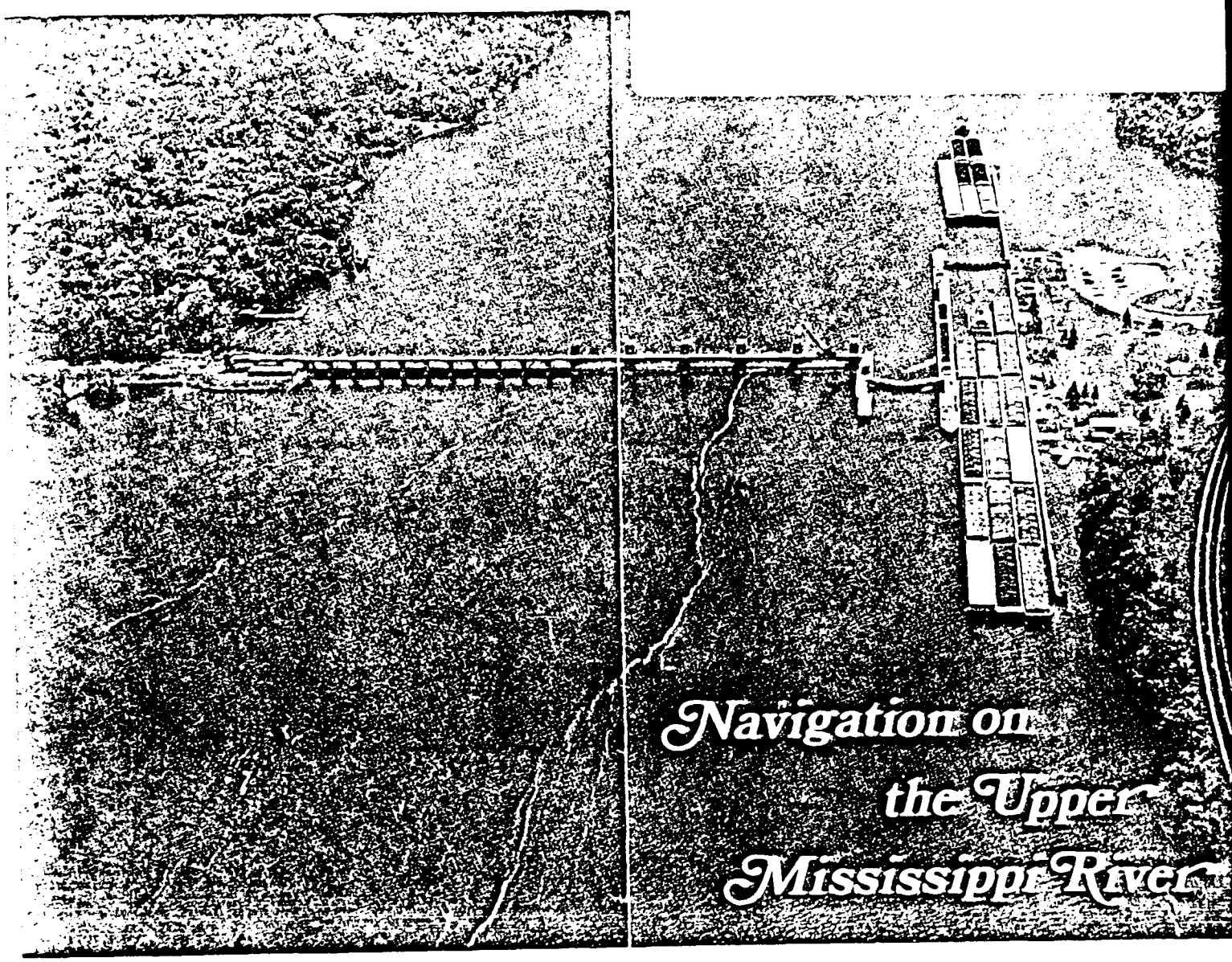


Figure 7

Personnel, dam no. 5
1935 (?)
Corps of Engineers



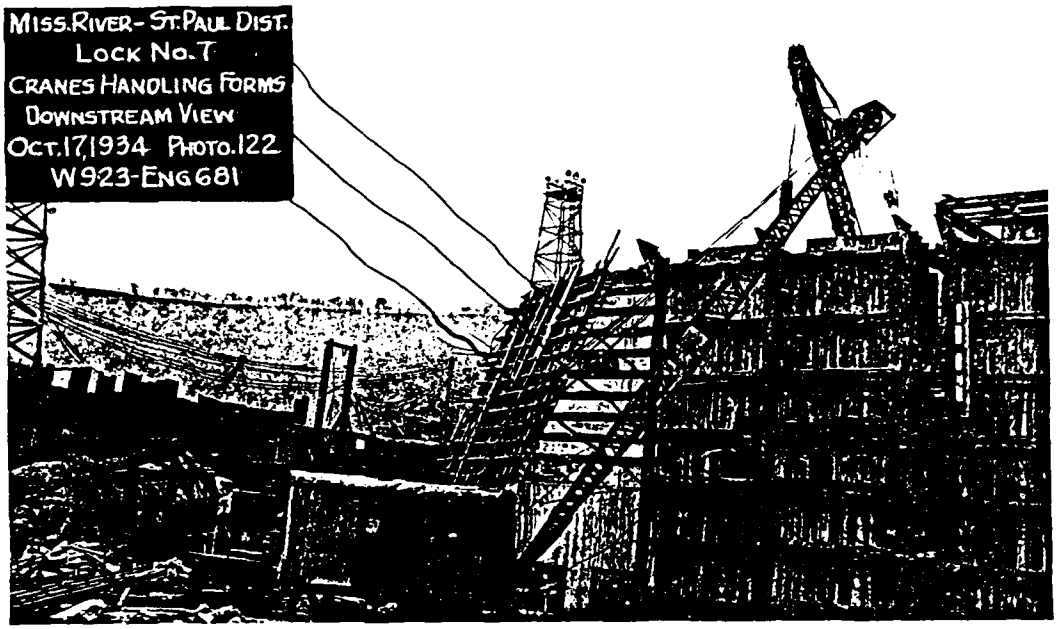


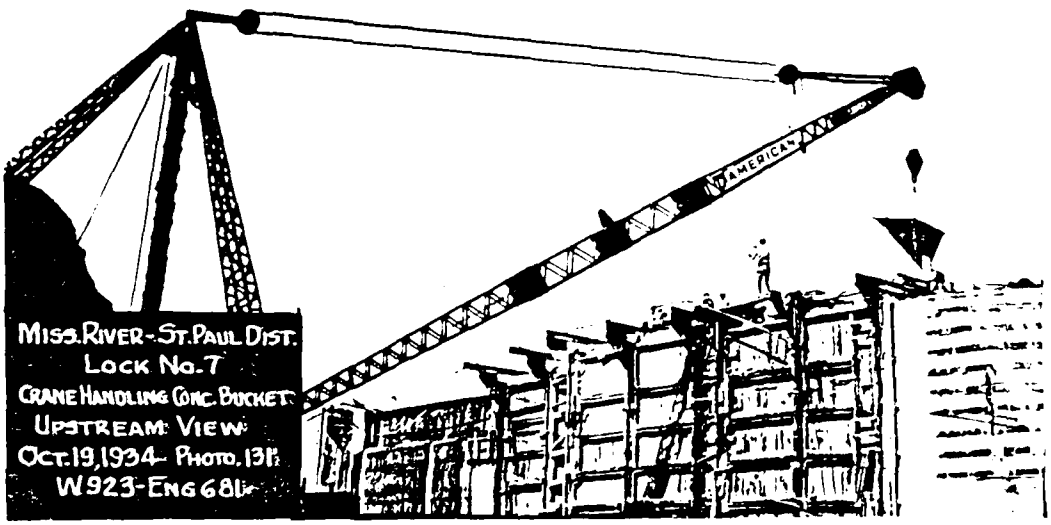
Navigation on the Upper Mississippi River

US Army Corps
of Engineers

Figures 9 & 10

Concrete operations, lock no. 7
(See McDonald interview)
1934
Corps of Engineers





Appendix A/Transcripts

Elmer J. Christenson

Frank A. Daly

Joseph McDonald

U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT

ORAL HISTORY INTERVIEW FORM

Narrator Name: Elmer J. Christenson

Address: 1380 Frankson Avenue, St. Paul, MN 55108

Date of Interview: June 13, 1988

Place of Interview: Christenson home, Frankson Avenue

Name of Interviewer: Jo Blatti

Project Title (if any): Pilot Interviews, 9-foot Channel Project

Narrator Biographical Information:

Full name (including maiden name): Elmer J. Christenson

Year of Birth: 1903

Spouse's full name: not known

Subjects Discussed:

Mr. Christenson discusses career as civilian engineer with Corps 1927-1960s, with particular reference to the 9-foot channel project. Mr. Christenson worked on lock and dams nos. 2, 3, and 4. Topics include temporary duty in Cincinnati on design of no. 2, subsequent formation of design section in St. Paul; his own experience--entirely field contruction following no. 2. He notes no. 4 unusual because so close to railroad and outlines field crew staff structure. Mr. Christenson also describes conditions of temporary residence in Alma, WI; testing procedures for 9-foot construction; artificial foundation at no. 3; an H-beam accident; St. Paul District responsibility for flood control following 9-foot; Depression paycut, month w/o pay; no. 3 crews as bigger than others due to more finishing work and dredging; winter of 1936 as particularly difficult weather.

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TAPE INDEX
Corps/9-Foot Channel Pilot Interviews
Interview with Elmer J. Christenson
June 13, 1988
(1 hour, 35 minutes)

Tape 1, Side 1

0 min. Describes background in Ellsworth, Wisconsin, on Mississippi opposite Hastings, Minnesota. Family of Norwegian heritage, father farmed, later in hardware business and village clerk.

Began college studies at St. Olaf in Northfield [MN] and later transferred to engineering program University of Minnesota.

Graduated 1927 and went directly into Corps of Engineers as civilian engineer.

First job at Hastings lock and dam.

Difficulty of finding work at that time.

5 mins. First assignment temporary duty Cincinnati [Ohio], working on design lock no. 2.

No design section in St. Paul at time, Ohio River locks model for 9-foot channel on Mississippi.

Subsequently assigned to construction at no. 2 under W.D. Fairchild.

11 mins. Remembers quite a bit of interest in 9-foot at Corps.

Then to dredging job in Lynxville, Wisconsin 1930.

15 mins. Transferred to no. 4 in Alma [WI].

Describes duties as office engineer, responsible for surveying instruments, inspectors' schedules, tours of job.

Remembers initiation of St. Paul design section for 9-foot channel under Hibbert Hill and others.

20 mins. Notes change orders as method for adapting job specifications in field.

Main purpose, Corps construction histories to document procedures if trouble with structures later.

No. 4 construction unusual in that work so close to rail line.

25 mins. Resident engineer Fairchild and district office dealt with railroad and other interested parties directly.

Remembers PWA wage as 50¢ per hour, but had little to do with administration PWA provisions himself.

Tape 1, Side 2

0 mins. Describes Corps field crew at no. 4, primarily inspectors, rodmen and surveymen.

Remembers little/no friction between graduate engineers and those with on-the-job training.

5 mins. Describes 9-foot project as new to St. Paul District in scope and scale, but successfully tested elswhere. Remembers little concern about technical aspects of job.

Notes that St. Paul District never contracted to "pre-9-foot" size; subsequent flood control responsibilities kept many on staff.

10 mins. Considered contractors at the sites he worked "real good," didn't try to get by with anything.

Doesn't remember any particular differences PWA, non-PWA sites on 9-foot project.

15 mins. Lived on-site in Alma, rented half-house on bluff overlooking construction [near later site lockmasters' dwellings]

Remembers some socializing with contractors' key men, little with townspeople.

Little contact or knowledge of workers on job.

Wing dams taken out if interfered with construction, otherwise flooded.

20 mins. Testing of concrete.

Lack of Tainter gates at no. 3 attributed to short span.

25 mins. Unusual situation at no. 3 necessitated artifical foundation, steel H-beam pilings.

Tape 2, Side 1

0 mins. Safety issues on 9-foot - Corps noted as safety-minded, no particular memories problems.

Story of 25-30 H beams downed in high winds.

Does not recall any contractors' lawsuits following 9-foot construction.

7 mins. Shows his copy engineering article he authored on foundation at no. 3.

Notes subsequent assignments in flood control.

Cannot recall other engineers on 9-foot project still living, still with Corps.

Notes no women on project save spouses; his first wife died in childbirth.

13 mins. Notes change in same contractor's organization at no. 4 between lock and dam contracts, but doesn't remember specifics.

16 mins. As regards Depression paycuts within Corps, remembers one systemwide month without pay circa 1931-32 -- no other reductions in pay his career.

Notes enjoyment Corps career, best part engineering seeing something useful coming to life.

[Recorder off]

21 mins. No. 3 crew much bigger than others, new dredging needs because of locks and dams, other 'finish-up' jobs.

Discussion of continued dredging over past 50 years, unable to say whether siltation levels anticipated within Corps [Recorder off]

25 mins. Winter 1936 one of worst in his memory.

Tape 2, Side 2

0 mins. Wintertime concrete.

Does not remember any unusual delays at the 9-foot sites he worked.

5 mins. Off.

Interview with Elmer Christenson
by Jo Blatti
June 13, 1988
Corps/9-foot Channel Project

Tape 1, Side 1

This is Jo Blatti. It is Monday, June 13, 1988, and I am interviewing Elmer Christenson in his home in St. Paul. This is for the Corps of Engineers oral history series on the 9-foot channel, and the subject of our interview is his work on that project for the Corps of Engineers in the 1930s.

Int. Could we begin by just getting a little background. Could you tell me a little bit about your family, where you were born and raised and - ?

EC I was born at Ellsworth, Wisconsin, if you know where that is.

Int. I don't. Where is it?

EC It is 16 miles east of Prescott, do you know where Prescott is?

Int. Is Prescott right on the river or near it?

EC Prescott is right on the St. Croix River.

Int. Ok.

EC Right opposite from Hastings.

Int. Alright. Alright.

EC I was born there in 1903.

Int. Was your family in farming or in business?

EC No. They were living in town. My father was a farmer when he first came over from Norway, and then he went into the hardware business in Ellsworth. And he finally had to sell that because it affected his health. And then he became village clerk, and he was the village clerk at Ellsworth until he died.

Int. I see. Did you, I understand that you went

to engineering school at the University of Minnesota and I wondered how you got into engineering as a young man. Was that -

EC Well, I tell you, I went to St. Olaf College, if you know where that is,

Int. In Northfield [MN]. Yeah.

EC And I hadn't made up my mind what I wanted to do with my life. So the following year I stayed out of school, and I worked for the Federal Reserve Bank in Minneapolis. I started out as a messenger for $45.00 a month.

Int. Now, was that a big salary in those days?

EC Oh yeah. It wasn't a big salary, but it was a normal salary.

Int. Uhuh. Now you would have been, this would have been after World War I, in the early 20s maybe or the teens?

EC That's right, would be in '22, 1922. And during that summer, why I decided that I wanted to get into construction work and be an engineer. So in 1923, I started at the University of Minnesota. I graduated from the University in 1927 and I got a job with the Corps of Engineers through the Civil Service Examination and started to work for them in, oh, it must have been about June 21st or something like that in 1927.

Int. Now, was that a kind of common, did alot of people, the thing I am curious about is, was just going into the Corps or going into some other agency that used, alot of the engineers that I've interviewed seemed to have gone to the Highway Department or some such thing. I would have guessed engineers would have gone into private practice, but that's not the way it worked.

EC Not at that time. There didn't seem to be much, many openings in private practice, actually. Alot of people worked for the Highway Department. In fact, I worked for the Highway Department one day and then I got my appointment that night.

Int. My goodness. So when you were making a decision about what to do when you got out of school, you looked at the Corps. And did you look at other, well, you looked at the Highway Department, but you were looking in kind of state and federal?

EC I made an application to the Corps of Engineers way back in February when I took this examinatin for Junior Engineer.

Int. I see. Now what kind of projects did you work on in the Corps?

EC My first job was at Hastings at the lock and dam there.

Int. Oh. Oh.

EC I was Assistant Resident Engineer on that project.

Int. So that would be, which number is the Hastings?

EC That's no. 2.

Int. Ok. And that was part of "the Twin Cities complex".

EC That's right.

Int. Now was this kind of a common path, did alot of your classmates at the University of Minnesota go into something similar?

EC Oh, not alot of them. Quite a few of them worked for the Corps, but not always in St. Paul. Some of them went to Milwaukee, they have a District Office in Milwaukee. Three or four of them went down there that I recall. Some of them went to the Highway Department, and others at that time couldn't find a job.

Int. Was it tough to get a job in those days?

EC Yeah, it was kind of tough to get a job.

Int. It was the late 20s, and times were beginning to get hard. Was being engineer in any way a glamorous profession when you were - ?

EC Oh, I wouldn't call it a glamorous profession, No.

Int. The reason I'm asking is it became - there were alot of young engineers, I mean when you and many of your friends were getting out of school, the profession itself was getting to be quite large, and I wondered you know, how you all saw it at the time. Was it kind of a solid thing to do or was it glamorous or - ?

EC I can't remember that I considered it glamorous; I was just lucky to have a job. Thankful to have a job.

Int. Uhuh. So you went directly, into essentially, dam building.

EC Yes. That's where I started.

Int. Right as you started. Did people at the Univesity of Minnesota Engineering School have particular ties to the Corps of Engineers St. Paul District?

EC No, not really. Not really.

Int. There wasn't like a mentor who was sending people in?

EC Well, we were advised, of course, that the Corps of Engineers were advertising for engineers, so that's how I happened to take the Civil Service Examination for Junior Engineer.

Int. The reason I am asking about this kind of thing is that when Patrick O'Brien, an historian in Denver did work on historic engineering record for the St. Paul District, he noticed that there seemed to be alot of people, yourself included and Hibbert Hill and others who were associated with the University of Minnesota either as teachers or students and so we all wondered if there a particular, you know, any kind of informal network at work there.

EC No, I don't think so. I don't think so.

Int. It's not like graduate students in some other kinds of fields kind of being handed on into - .

EC No. No.

Int. It just happened to be that you were there or something.

EC That's right.

Int. Did you go from no. 2 then into the 9-foot channel project, or did you work on other things in between?

EC Well, I should tell you that my first assignment was to, I was sent on temporary duty down to Cincinnati, Ohio to help design the lock and dam at no. 2.

Int. Oh, ho.

EC So I worked on the design of it first.

Int. And, so that was done out of, could you tell me a little bit about how that worked. I know the Ohio -

EC We did not have a design section in the St. Paul office at that time.

Int. Ok.

EC That's why it was decided to have it designed in Cincinnati at a division office down there.

Int. Now, Cincinnati had just put those big locks on the Ohio River, is that right?

EC That's right.

Int. So, can you remember how that, I mean, one of the things we are curious about is where the models for the 9-foot channel locks and dams came from? Was -

EC I suppose they came from the Ohio River.

Int. Was there a direct relationship between what was done on the Ohio and then what was - ?

EC Oh, yes. Same size locks, locks were designed the same size as they were on the Ohio River.

Int. Were you the only person from St. Paul who went into the design?

EC At that time, yes.

Int. And, then what did you do in Ohio? What was your work while you were on temporary assignment?

EC Going through computations to design how large the walls should be and so forth.

Int. And, who did you work with in Ohio?

EC I worked with the people who were in that division office.

Int. I wondered if there were particular individuals who you remember or - ?

EC I don't remember any of their names anymore.

Int. Ok. The -

EC That's 60 years ago.

Int. I know. I know. I'm just asking, not necessarily - I mean if I had to ask, gee, was the design simply adapted for the Hastings conditions, would you say yes or no, or were there special conditions that had to be met?

EC Well, I don't know exactly what you have in mind there. When you are designing something you have to consider your local conditions whatever they are, so they have to be adapted to that.

Int. I just wondered if there were special things that you remembered having to work on.

EC No, not particularly.

Int. Ok. Ok. So you went - , how long did it take you to do the design work?

EC While I was there from October until the following April, I think it was.

Int. So that is a good long time. Did you bring back completed plans with you or - ?

EC No, I didn't bring any back. I suppose they were mailed. I don't recall that. When I came back then is when I was assigned to the construction of the lock and dam at no. 2.

Int. Well, that would have put you in, this would be '28, '29?

EC '28.

Int. So, you worked on no. 2 and you actually then supervised that construction, is that - ?

EC Under our Resident Engineer.

Int. Who was that at the time?

EC Resident Engineer was W. D. Fairchild.

Int. Oh, he was already in the St. Paul District?

EC Well, he came from the Ohio River District.

Int. I see. I see. Now, did you get to know him particularly well?

EC Pardon?

Int. Did you know him well?

EC Oh, yes.

Int. What kind of a person was he? I am curious because he shows up alot.

EC Well, he was a real good engineer. He knew what he was doing; he'd been on the construction of locks and dams on the Ohio River for some years. I don't remember how long. But he supervised the construction of the locks and dams there, and he was a real good man to work for. I had real good relations with him.

Int. Was he a tough man or - ?

EC No, I don't think so.

Int. Because his pictures are of a very burly person and you think of a kind of cigar chomping -

EC No, he chewed tobacco. I smoked the cigars and he chewed the tobacco. [Laughs]

Int. I see. [Laughs] When Mr. Fairchild came out, did St. Paul have any sense that the 9-foot channel, I mean, because the 1, 2 and what is it, 1, 2 and then 2 and the Ford Dam, those were the three dams that are in the between Hastings and Minneapolis, right? **[Note: Interviewer error, the Ford Dam is Dam No. 1.]**

Those were a separate project, they weren't the same as the 9-foot channel project.

EC Well, no. 2 is part of the 9-foot channel project.

Int. Oh, it was? And was it considered that when you were - . Because in terms of the work that I have been doing, folks have been saying that it is 3 through 10 that we kind of consider the 9-foot.

EC Well, maybe that's right, I don't know.

Int. Now, you correct me if - .

EC No. 2 was the first one built, of course.

Int. Oh, I see.

EC But maybe the 9-foot channel itself was authorized after that. I'm not sure.

Int. What I was wondering is whether the locks down river were kind of part of your thinking and Mr. Fairchild's and other peoples at the time you were working on 2.

EC That I don't know. I don't know.

Int. Was there alot of talk about the 9-foot channel in the late 20s that you remember or - ?

EC I suppose there was after it was authorized. I don't remember the date that it was authorized.

Int. It seems that the discussion and the authorization were around '29, '30, and I guess what we are trying, we can see that on paper. And what we are trying to find out a little bit more about is if people remember discussion about it or - ?

EC No, not really. But I suppose it was authorized when we were building lock and dam no. 2, I imagine. [Note: No. 2 was not part of the 9-foot system at the time of its construction, though it was later incorporated into the system.]

Int. Yeah. Was this a big, as you remember it, was

this a big deal within the Corps. Was the 9-foot like a big opportunity for a young engineer like yourself?

EC Oh yeah. Yeah, definitely.

Int. And, were young men like yourself kind of competing to get a job on the 9-foot channel contract, or were there other things just as interesting going on in the Corps office?

EC Oh, there seemed to be quite a bit of interest to it, yeah. There were others from the University that were employed at some of the other locks and dams, of course.

Int. Were people, I mean, like when you all were moving around, did you put in for assignments, or did you wait to get asked or - ?

EC We waited until we were asked, and then we just transferred.

Int. I see. I see.

EC We had the choice of turning it down, if we wanted to.

Int. Would it be, I mean turning down a big project or part of a big project like the work on the locks and dam be bad for - your career at the Corps if you did that or - ?

EC It depends on what other openings you had, of course.

Int. Yeah. Yeah.

EC There might have been other openings, I don't know, I never tried anything else except the Corps of Engineers.

Int. I meant within the Corps itself.

EC What do you mean?

Int. Was it a bad idea to turn down something that was offered or did you have alot - ?

EC Turn down a transfer you mean?

Int. Yeah, was there alot of play in the system. Did you have alot of options?

EC No, not too many options, I wouldn't say.

Int. I see. Now how did you, so you went from 2 to 4 is that right, when you were finished at 2, did you go to 4?

EC No. After no. 2, I went down to Lynxville, Wisconsin and I worked on a dredging job. We cut a new channel and made a cutoff in the bend of the river to shorten it up. And I was there from, kind of hard to remember, must have been in 1930. I was there for one summer, and then I was transferred up to lock and dam no. 4 at Alma, Wisconsin.

Int. I see. Now, no. 4 is where they began the 9-foot channel project.

EC Yeah, no. 4 and no. 5 were started about the same time.

Int. And, you again were the number 2 man on site, assisting Mr. Fairchild. What was your job, I mean, what did you do when you got up in the morning and went down to the site?

EC Well, my responsibility was to, when I first started on the job to lay out the surveying instruments. We had people working with us, of course, to locate where we were going to put the certain walls and where were we going to put the dam and so forth, that was accomplished by surveys. I had survey people working for me, but I was supervising it.

Then after we got into construction my responsibility was to draw up the schedules for inspectors. We had inspectors working 24 hours a day, so I had to make a schedule, who was going to work from 8 to 4, who was going to work from 4 to 12 and who was going to work from 12 to 8 in the morning. And then, I used to make regular tours of the job to see that the inspectors were doing what they were supposed to be doing.

Int. Now the work, as I understand from reading the construction histories and things, the work, most of the work, except some surveying and some sounding was done by the contractors, is that right? And that the Corps staff and the Corps engineers on the site were largely people who were inspecting things and making sure that everything was done; is that the

right understanding?

EC — That's right. The Corps did the surveying work. But the contractor did all the construction work, and it was inspected by people from our office.

Int. — Now as I remember, well, let me go back to just design for a minute. Did you do the same sort of thing about, did you go to St. Louis or someplace else to work on design for no. 4 or 5?

EC — No. No. That was designed in our office in St. Paul.

Int. — Oh, it was?

EC — Uhuh.

Int. — Was there a design section at that time?

EC — They started a design section when we were building lock and dam no. 2.

Int. — I see. Do you remember who was head of the design section, or any of the people who worked on that?

EC — Well, there was one man, Hibbert Hill was one man that was in charge of design at one time.

Int. — I see.

EC — And he was a very prominent engineer and later worked for the Northern States Power Company.

Int. — Now, I understand that at one point he had an appointment at the University, is that - ?

EC — Pardon

Int. — That Hill had an appointment at the University at one point.

EC — Yeah, I think he did. I think he was teaching over there at one time.

Int. — Did he teach you or - ?

EC — No. Not me. He graduated about 4 years ahead of me.

Int. — I see. Oh, so he was not in a separate

generation from you.

EC Oh, no.

Int. He was your colleague.

EC Well, practically yeah.

Int. I see. I see. Well, now, this is interesting if you can remember any other names that would help us, because we thought -

EC Well, a fellow by the name of Lidicker [William Z.], Lidicker was chief of design at one time and -

Int. Now these would have been during the 9-foot channel days?

EC Yes. And a classmate of mine was in charge one time, Floyd Borham. He passed away many years ago now. And who else I knew that was in charge of design? During the latter years of the 9-foot channel, why Francis Mullen was in charge of design.

Int. So, it was the St. Paul District. See, now this is interesting to me because those of us who have been looking at these records have been imagining that the plans were drawn in St. Louis under McAlpine because nobody knew. The design information doesn't seem to be as accessible.

EC No, I think the rest of the locks and dams were designed in St. Paul, as I recall.

Int. I see. I see.

EC I remember McAlpine. I met him.

Int. But his office didn't - .

EC Not to my knowledge, No.

Int. That is very interesting. So this was a St. Paul project. Now, were you asked to kind of help out in the process any since you had been to Ohio and had participated in the design of lock no. 2?

EC No, I was down in construction all the time.

Int. So, they might have used some of the work that

you did or something, but you were actually superintending construction rather than working on design?

EC That's right.

Int. And, you were getting complete plans and specifications. Now how does that work in terms of the Corps designing and a contractor adapting in the field. Are there many field adaptations that become necessary?

EC Oh, there was some, and we accomplished those by what we called change orders. We write a change order to the original contract.

Int. I see.

EC And then we have to negotiate a price for that change order with the contractor.

Int. I encountered some of those in the back of the construction histories. They seem to have been everything from very, very minute things to sometimes quite, more substantial changes.

EC Oh, yeah.

Int. Can you remember some of the incidents that required changing on 4 or 5?

EC No, No. I can't.

Int. I wondered if anything just happened, some old engineering problem came to mind.

EC I don't know if there is something in the histories about those or not. Did you see the history on no. 3?

Int. Uhuh.

EC I wrote that.

Int. Oh, did you?

EC Uhuh.

Int. In fact, I have - .

EC I wrote the one on no. 4.

Int. Ok. I have those in my briefcase. Yeah, we can take a look at them, maybe. The

thing that really struck me looking at them is that they are such voluminous, I mean, they are such careful histories, it is almost as if by documenting the construction this carefully that somebody else could duplicate them. Was that a -

EC — No, I think the main purpose of the history was to record what happened, of course, in case we had trouble in the future. So they would now what we actually did at the time.

Int. — So, that if there were problems with locks and dams, they would know exactly what the processes.

EC — That's right.

Int. — Had been. Now, I remember reading that the Alma section of the river was a particularly difficult section of the river, just in terms of the channel and how it operated.

EC — At Alma?

Int. — Yeah. Did you consider it so?

EC — I don't recall anything about that.

Int. — Uhuh. It didn't present any particular problems as far as -

EC — No, not that I recall.

Int. — It's not like there were treacherous waters, or a big siltation problem or anything like that?

EC — No, I don't recall anything about that, really.

Int. — Ok. Ok. Now, were there particular conditions as you think about any of them, you know, 3 or 4 or 5, that somehow each lock and dam had its own character or something?

EC — Well, I don't know what I would say in that regard. no. 4 was a little unusual and no. 5, too, in that they were built adjacent to the main line of the Burlington Railroad. So we had to be very careful, of course, anything in connection with the railroad.

Int. Did you work with railroad people at all, I mean, were you in contact with them or - ?

EC Not too much, that was all handled through our office in St. Paul.

Int. I see.

EC Any negotiation necessary.

Int. But were they running trains up and down from Chicago all the time, so you, and in those days, I suppose the trains ran much more frequently than -

EC Oh yes, I should say. Alot of trains at that time.

Int. Uhuh. Did you get to know people in Alma or up around Hastings, or as you were working - ?

EC In town you mean?

Int. In town.

EC Oh, yeah, some of them.

Int. And, did you have much of a sense as to how people saw the lock and dam project?

EC I don't recall anybody that was not in favor of it.

Int. Uhuh. It was -

EC Or had any objection to it.

Int. Yeah. It was, there wasn't, I mean there wasn't something about which there was any mixed feelings that you were aware of?

EC Not that I recall, no.

Int. I wondered if you had any occasion, really, to talk with people from the Izaak Walton League or any of - . That environmental group seems to have been quite concerned about how the 9-foot channel was handled, and I wondered if you had any interchanges or - ?

EC Our field office did, but I think that was handled mostly by Fairchild.

Int. I see.

EC [Indecipherable.] I don't recall that I had any particular contact with them.

Int. Do you recall what the interchanges might have been, or how they were resolved, kind of what went on or how it was resolved, was it anything that you - ?

EC No, I don't recall anything about that.

Int. I was just curious, because there seems to have been alot of activity. And ultimately the railroads and the environmental groups who had raised questions, you know, and the Corps came to an accomodation, but I wondered how that affected people who were actually working on the job.

EC I don't think it affected people on the job very much. I recall that the railroad had alot of objection to the construction of the no. 4 because it was right adjacent to the railroad right there, of course. I recall at one time they had an injunction against the government.

Int. So I understand.

EC Against building it, but it was finally settled, I guess. They went ahead with it.

Int. So, as long as you didn't flood the tracks it was, did they have to raise their tracks up around Alma?

EC No, I don't think so.

Int. I understand that they did in some places but not -

EC I suppose they did. I don't recall if they did or not.

Int. I understand that 4 was a Public Works Administration project, that you had labor from National Unemployment Relief hiring halls

EC NRA

Int. And I wondered if you remembered much about that aspect of the job? Did you work with

the National Unemployment Relief people at all yourself or - ?

EC No, I don't think so.

Int. Did you, I mean, do you know where the hiring hall was in Alma, and stuff like that?

EC The hiring was done all by the contractors.

Int. So, this wasn't something that you had directly -

EC No, I don't think so.

Int. to do with. There were people in the government office who dealt with - , apparently a great deal of attention was paid, judging from the construction histories, to liason with the NRA, but that wasn't part of your job?

EC I seems to me that we had somebody in our office that had something to do with the NRA, but I don't remember for sure. I remember the laborers were paid 50 cents an hour. That was a common labor wages at that time.

Int. How many people were in the government office at no. 4, say?

EC I don't remember now, I have a picture upstairs.

Int. Oh, let me, maybe - .

Tape 1, Side 2

[Note: EC searches for no. 4 staff picture, but is unable to locate.]

Int. I am sorry, you were saying, how many people?

EC We had, I think there were 25 or 30.

Int. And these were all graduate engineers?

EC No. Not all graduates.

Int. Ok. But this was the Corps field staff?

EC That's right, inspectors and rod men, survey men and so forth.

Int. Were there other job classifications besides that?

EC Well, there were survey men, there were rod men, and just inspectors. Inspectors weren't necessarily college graduates.

Int. And, they would be inspectors for concrete, and -

EC Steel.

Int. And electrical, would that have an inspector also -

EC Right.

Int. And, were these people St. Paul office, Fountain City office - did they just come from all over - ?

EC They came from all over.

Int. I see. I see. And, some of them had on-the-job expertise and some of them had formal educations and -

EC That's right.

Int. Was there any - one thing I am curious about, just in terms of engineering as a profession and the Corps as a place which must have brought together, especially in the '20s and '30s when there are so many more people getting graduate degrees in engineering. Was there any kind of friction on the job beween people who had formal education in engineering and people who had on-the-job kind of experience - ?

EC No. I don't think so.

Int. Was that an issue?

EC I don't recall of any trouble we had at our jobs at all in that regard.

Int. That wasn't something that you experienced or noticed much?

EC No. I don't think so.

Int. I also wondered if, you know, we were talking

about Mr. Fairchild awhile ago and from reading the official history, I picked up hints and I don't know if there, you know, if this is the right intrepretation, that there was some kind of - that the 9-foot channel was a big project for the Corps and that there was is alot going on between the field offices and the St. Paul District in terms of chain of command and that kind of thing. Was that anything that you experienced?

EC Oh, there was alot going on between the District Office and the forces down in the field, yes.

Int. How, I mean, were you on the phone alot, did you move back and forth - ?

EC On the phone alot and there'd somebody from the District Office to come down for an inspection. The District Engineer used to come down every once in awhile.

Int. Once a month?

EC The man in charge of design or the man in charge of construction.

Int. Uhuh.

EC And, sometimes, the Resident Engineer, Fairchild would be called into the office for a consultation.

Int. Uhuh.

EC It was handled that way.

Int. Were things pretty clear, or was there alot of - I mean was there alot of, lack of clarity about who was in charge of anything or - ?

EC Oh, I don't think so.

Int. Yeah. So that wasn't something, I mean, that wasn't something that affected your work for instance, apparently - ?

EC No. Not at all.

Int. In terms of the scale of the 9-foot channel engineering projects, I understand that - that some, especially on the dams that some of the technology was being - like many more

gates were being put in than anybody had ever put in before.

EC Many more what?

Int. In terms - many more gates - I mean that the stretches of river were much bigger than those kinds of dams had been put up before. That nobody had ever kind of lined up that kind elements of the same design, and I wondered if that was - does that square with your memory? You sound a little surprised, so maybe I am overinterpreting here.

EC You mean, that there were so many being built at the same time you mean?

Int. I meant that some of these assemblages of roller and Tainter gates were using, I mean, like twice and three times as many gates were being used in these dam systems as had been used before if I understand some of the stuff I have been reading right. And, I wondered if that were a real engineering problem, or if was just adding [to] a design that you already knew. Was there any sense that you were doing something unusual or that you were testing a model - ?

EC It had never been done before in the St. Paul District, of course. Either a Tainter gate or a roller gate.

Int. And, were these - did these present problems for you or - ?

EC No, not particularly. Just followed the plans.

Int. And, they worked, huh?

EC They worked.

Int. And so you didn't have to do alot of adjusting or - ?

EC Not that I recall, No.

Int. And, did you all think about that as you remember? I mean, did you - ?

EC Worry about it, you mean? [Laughter]

Int. Yeah.

EC No, I don't think so.

Int. You just figured it was going to work and - .
EC Yeah. I suppose.

Int. And a -

EC I don't recall ever particularly worrying about it.

Int. About you know, would this, is theory being tested to its limits or something or - ?

EC Well, they had been used before other places.

Int. Yeah. So - .

EC They had been successful before.

Int. Maybe it would be good to go back to the question that you just kind of referred to, which was that there was alot of building, I mean, this all went up in a seven, eight year period.

EC Uhuh.

Int. And, that must have been a massive project for the St. Paul District.

EC Oh, it was.

Int. Did you notice changes both in - I mean in the way that the St. Paul District operated, or did it kind of get big and then get small again after it - the 9-foot channel was completed in terms of construction, or - ?

EC Well, I don't remember when the District got the responsibility for flood control work. In a flood control act of some year, I don't remember when it was. But after the 9-foot channel, then the District got into the construction of dams for flood control work, which hadn't been the case up to that time. And, much of the effort after the 9-foot channel was devoted to that.

Int. So, it never got small again in a way? There was work for alot of the people who came in for the 9-foot?

EC Well, alot of them had to transfer out, too.

Int. Oh, I see.

EC When we got through with the 9-foot channel, quite a few of them transferred to other Districts that were having construction problems at that time.

Int. Uhuh. Uhuh. Now, was this - when you were working on the 9-foot channel along with other people in the Corps office, did - how did you see the channel itself? Was this a necessary improvement that had been talked about for years? Was it a depression era project? Was it some kind of grand public work, like the Bonneville Dam or the TVA in your minds or - ?

EC Well, it was something that had been talked about by civic leaders for quite awhile to enhance the transportation of goods, of course, on the river.

Int. Were you aware of that growing up in Prescott, was that something you heard?

EC Oh, I suppose there were articles in the paper about it, about the need for a 9-foot channel, the need for a deeper channel for the tow boats.

Int. Uhuh.

EC And, of course, it was built there in the Depression, so it was a - oh, what do I want to say? It had something to do with the unemployment situation, of course, at the time. It aided the unemployment. But, it also was a necessary project, I think.

Int. Uhuh. Uhuh. Did you guys see yourselves as kind of creating infrastructure or something, or were you just building a dam, I mean? I am kind of curious as to how engineers think about these things.

EC We were just building a dam, I think. [Laughs]

Int. [Laughs]

EC We had a job which we were thankful for.

Int. Yeah. Yeah. Did you get to know many of the

people who were working on the project, the laborers or skilled workmen?

EC Not so many of the laborers, but we got to know quite a few of the foremen, of course, of the contractors.

Int. Uhuh.

EC Foreman, for example, who was in charge of the placement of re-inforcing or in charge of the concrete and so forth . We got to know all them pretty well.

Int. Yeah. Were these what are called the key men when I look at the construction history, the people that the contractor brought in - ?

EC Yes. They would be key employees of the contractor.

Int. And, I wondered if you remembered much about working with them, if there were particular people or personalities that you remember, or incidents on the job in terms of kind of getting something done.

EC I don't remember anything in particular about that, I don't think.

Int. Yeah. Yeah. Just kind of went along as it needed to get done.

EC Yeah. Uhuh.

Int. The, - when, you worked on several dams, so you would have met several different contractors and contractors' organizations. And, I wondered if you, you know, made any mental comparisons between, you know -

EC Contractors, you mean?

Int. Yeah. And, how they - if you noticed things about how the projects came together from that respect?

EC Well, I worked at three locks and dams, and I'd have to say that I think the contractors on each one of them was a real good contractor. They did work real well, didn't try to get by with anything. Real nice to deal with. See, I worked at the - , after I finished at no. 3, then I went back to

Hastings for the second lock there. And, there I was Resident Engineer -

Int. Uhuh.

EC For the second lock. Those were the three jobs that I worked on.

Int. I wondered if you noticed any difference between - , because you worked on both kinds, projects that employed NRA labor and projects that, in which the contractor was free to hire anybody? Did that seem to make much difference in the way that - ?

EC No. I don't think so. I didn't seen any difference there at all.

Int. Did that seem to make much difference in the way that things went together or in hours of work and stuff? I mean, I understand that people had to be very careful about a 30-hour work week, and that it sometimes got very complicated.

EC Yeah, I suppose it did. But I don't recall of any particular difficulty.

Int. And, you were scheduling people who were working 8-hour shifts, anyway, I take it?

EC Pardon?

Int. You were scheduling people who were working 8-hour shifts, anyway, I take it.

EC Oh, yeah.

Int. So they were working five days a week, six days a week?

EC [Laughs]. You know, I don't remember whether they worked five days or six days. [Pause] We must have worked, I am sure the contractor worked six days a week -

Int. Was that standard at that time?

EC We had to schedule our inspectors to take care of that, of course. But, I'm not sure, maybe they worked just five days, I don't know. I don't know. That's too long ago. [Laughs]

Int. Well, you understand, I am just trying to see if you remember something that might

catch at, not that I expect you to.

EC I know.

Int. I was wondering if you got to know people from Fountain City - ?

EC Fountain City?

Int. Yeah. Was that a big kind of outpost for you guys - ?

EC That is what we used to call a boat yard.

Int. Yeah.

EC That's where they kept the dredges and the motor boats and stuff like that. We had some contact with them. Sometime we would have to go down there for some supplies or something.

Int. It wouldn't have been very far from where you were?

EC No. Fountain City was probably oh, 20 miles I suppose from Alma.

Int. Now, did you live in Alma, or around there somewhere?

EC I lived right in Alma.

Int. Now, where did you live in Alma?

EC I lived up on what they called Second Street, right above where the dam is.

Int. Uhuh.

EC I could sit on our front porch and watch them work on the dam. [Laughs]

Int. How do you think they liked that? [Laughs] You mean you lived up on the bluff where they later built the houses for the lock-master?

EC On that same street.

Int. Ok. Ok. And, did you rent, or did you board?

EC I rented.

Int. You rented a house.

EC Half a house.

Int. Were you a married man?

EC Pardon?

Int. Were you a married man then; did you have your family with you?

EC No family.

Int. But your wife came down?

EC Yeah.

Int. And lived with you there. What was it like to be, I mean was it just like a temporary duty for you, or did you mainly - did you socialize with Corps people or with towns-people?

EC Corps people mostly.

Int. So, it's kind of like there was the Corps people, there was the contractor's people and then there were the people who lived in Alma?

EC Yeah. That's right.

Int. Is that the way it was?

EC We sometimes socialized with the contractor's people. Not too much though.

Int. Uhuh. Uhuh. So, it was kind of like being in the Army or something in terms of - ?

EC Yeah. A little bit.

Int. Getting to know. What kinds of things would you do, for amusement, when you were finished work?

EC Well, we used to drive down to Winona for a movie, for example.

Int. No movies in Alma, I take it.

EC No, not at that time.

Int. And, were there restaurants and things that

you could go to or was it - ?

EC Restaurants?

Int. Yeah.

EC Oh, yeah.

Int. Was it - I mean, now, Alma is kind of a scenic river town, and you can tell there is essentially a tourist trade. Was that true in those days?

EC No, I don't think so. No. No.

Int. Was it mainly - was there alot of river trade in those days, or was it mainly a kind of in between things?

EC Well, I suppose you could call it kind of in between things. Pretty quiet.

Int. Yeah.

EC Pretty quiet. Not much going on.

Int. I understand, somebody else told me there weren't alot of indoor bathrooms in town.

EC Alot of what?

Int. There were not alot of indoor bathrooms in town, apparently.

EC [Laughs] No, I don't imagine there were too many. We had one, thankfully.

Int. That was something apparently that was the big question for some people coming down from the Cities.

EC Yeah.

Int. Now, one thing that I wanted to ask about. I've gotten very - from reading records and talking to people up and down the river and in talking to a few of you who were actually there. I've gotten very different ideas about labor. Some are that there was this kind of floating crew of people who worked on several dams and you know, people who were either hired in the NRA halls or whatever. And I wondered if you had any sense of that? I mean, were people coming from all over the

river communities on both side to work on the locks and dams, or was it mainly people who just lived right around each lock and dam who would come into that labor force or - ?

EC — That I don't know. I would gather, I would assume that most of them were from the community. Not necessarily from the town there, but from around the area. Coming looking for work.

Int. — Was it mainly farming out there then, or - ?

EC — It was farming around outside of the village there, yeah.

Int. — Yeah. Yeah. Cause I have gotten just - run across for instance, when I was down at lock no. 7, a young man who works there now, told me that his uncle, who was a farmer hired out with his horses to help clear brush, and I imagine there probably was alot of that kind of thing.

EC — That's when they were clearing the -

Int. — Yeah.

EC — Where the area that would be flooded, I suppose.

Int. — Now, when they - the first thing would be to clear the brush, I take it? And the second would be to do the surveying and sounding and then the contractors would come in?

EC — Uhuh.

Int. — And do their work. Were the wing dams taken out, or were they simply flooded?

EC — Some of them were. Some of them were just flooded.

Int. — I see. I see. So that all those kinds of arms that you see going into the river were just kept, unless they would just - ?

EC — I don't think that they were taken out unless they interfered with the construction work.

Int. — I see. I see.

EC They were just flooded.

Int. Yeah. Cause the pool was going to be elevated high enough that.
Now, I am going to run down some - just some things that I picked out of the construction histories, including the one that you wrote. And these may be things that you remember, they may not. But what I am trying to get a feel for is, you know, when it was special and when it you know, its just not something you would remember, just day-to-day stuff. So, one thing for sure that I wanted to ask you about is, there seems to have been alot of testing on the 9-foot channel project on the piles and on the use of - just trying to -

EC Concrete, you mean?

Int. Yeah.

EC Oh yeah. We tested the concrete regularly.

Int. Now, did the Corps do this with every project, or was this because this was such a big thing and such a special scale that you all wanted to test every step of the way?

EC Well, the testing was done at all the projects, all the lock and dams.

Int. I see.

EC We made concrete cylinders, and we sent those into a laboratory to be tested. To be sure that the concrete that was being used met the specifications as far as strength was concerned.

Int. So that for each one of the structures, the same procedures were used?

EC That's right.

Int. And, it was essentially a testing tensile strength and other properties - .

EC That's right.

Int. Of the material. You also seemed to, like I read about at Fountain City, you'd test for three feet, freeze-thaw to see how

the concrete would take the weather and - ?

EC Tested the what?

Int. Tested the concrete for freezing and thawing to see how it would take the weather. Was that just a standard - ?

EC I don't remember that.

Int. Ok. Ok.

EC I don't think they did any testing at Fountain City - .

Int. Ok.

EC That I recall.

Int. Huh. Now there seems -

EC Maybe something in my history says just the opposite, huh?

Int. Yeah. I don't know - . No, I got this out of your history.

EC Pardon?

Int. So I got this out of your history.

EC Did you?

Int. Yeah. A really detailed analysis of the cement like everything that was in it, and this was all kind of standard operating procedure for you - ?

EC Yeah.

Int. Was to really just test every step of the way. Is that the way contractors would do it, too? I mean, or is this - did this come with the territory of working with the Corps? Would they have tested this on their own, do you think?

EC For other jobs, you mean?

Int. Yeah.

EC Well, sometimes they do.

Int. Ok. Ok.

EC Sometimes the specifications that are drawn up for the job would require it, you know.

Int. Now, as - kind of reading over all this stuff that has been written about lock no. 3. It sounds like it was a little different. The dam was entirely roller-gates, there weren't any Tainter gates put in -

EC Weren't any what?

Int. Weren't any Tainter gates put in and I wondered if you remembered anything about that?

EC At no. 3?

Int. Yeah.

EC Well, I guess there weren't any Tainter gates. See, the dam wasn't very long at no. 3 on one side of the river where the gates were. We had roller gates there, and then the short. Oh, we must have had Tainter gates there, isn't there?

Int. We are going to have to look it up. This is from John Gjerde's report.

EC From who?

Int. John Gjerde's report. He is a historian who has just recently done a piece on the 9-foot channel for the Corps.

EC Oh, I am sure we had Tainter gates there.

Int. I will have to go look up, see if we can find a picture or something. Cause we have the construction history right here. The other things I picked out, and you just tell me if these are things that either you remember or just were such ordinary engineering problems that you didn't pay any mind at the time. Apparently at no. 3, all of the foundation material is artifically put in, that the river bottom was very soft and you had to pull everything out and put new stuff in? Is that just - I mean is this such a common engineering problem, that you just -

EC Well, there was an unusual situation at

no. 3, because there was alot - before we could get down to stable material we had to drive - we drove what we call H beams, steel H beams. An H beam is - do you know what an H beam is?

Int. What I am getting is a picture of a beam that looks like an H on top and goes down.

EC Yeah. Like that. We drove those down into the ground, and I think - boy, I have some pictures someplace of them standing up in the air. I think we drove them down about, oh, 90 or 100 feet, at least.

Int. And, you didn't get to the bottom, or you did? You mean, by doing that, you discovered that you had a problem, or that you just - you needed to replace the foundation.

EC Needed them to drive - to use that length in order to develop enough friction to hold up the concrete that we put on top of them, you see.

Int. I see. Huh.

EC Here is a picture of no. 3. This is an article that I wrote.

Int. I was going to ask you about that. Is this the one - I saw a citation for this. Yes.

EC Shows the roller gates here.

Int. Ok. So there -

EC Let's see.

Int. There aren't any - it looks - you know, are there any Tainter gates in that, because here is this big thing about the roller gates. And this is in [clock chimes] the official construction history for no. 3, just looking at the table of contents, there is a section on the roller gates, but I don't see one for Tainter gates.

EC Give it [the construction history] to me. Maybe there wasn't Tainter gates there. Could be. [Turns pages] We had timber piles, we had steel piles.

Int. Now, apparently, you also used a kind of a type Z sheet piling on lock no. 3, which apparently was the first time that that had been used.

EC That was to - that was above ground; we drove them into the ground so they would be stable. But they were put up there to hold back fill, above. They were done for the abutment walls here.

Int. This would be the sides of the locks?

EC Pardon?

Int. This would be the sides of the locks that they were -

EC No. At the ends, the abutments. The end of the dams. Roller gates, no, I guess there weren't any Tainter gates. Isn't that funny, I can't remember that?

Int. Now, one thing I noticed in looking at the construction histories, oops, let me just - [change the tape]

Tape 2 Side 1

Int. [Something I noticed in the] construction histories and also at the Old Man River newsletter that was published during, let's just move that over toward you again if we may, was a real emphasis on safety.

EC Oh, yes.

Int. Was this a problem, were there things that you were especially concerned about as the number 2 man?

EC Well, whenever you have a construction job, of course, there is always alot of possibilities for accidents. And the Corps of Engineers has been noted to be very safety-minded, and those instructions came right from the Chief of Engineers. So we had a, we had a safety engineer in the district office who used to come out every once in awhile to be sure that we were complying with the regulations. We used to have regular meetings with the contractors' men, their supervisory people, discussing safety operations and we were real careful about safety problems.

Int. Were you pretty satisfied, or were there things that you considered kind of persistent problems as the work went on? Were there things that you were worried about as - ?

EC Well, I suppose there were problems that we gave special consideration to, you know.

Int. Do you happen to remember any?

EC No, not really. Not really.

Int. I notice there was a particularly gruesome accident in piledriving, I guess.

EC Piledriving was quite a hazardous operation.

Int. The - .

EC And we spent alot of time on that, to be sure that they complied with our safety instructions.

Int. I noticed that references throughout the construction histories to the relative skills of the laboring force. And I would see phrases like, on one hand that oh, the men were the most skilled who could be obtained, which was kind of an ambiguous phrase. I mean, did that mean that they were very skilled or that they were the best of the bunch that was around? And, at another point, I think toward the end, actually, there was a comment about, I think maybe it was on dam no. 3, there was a comment on the inexperience of the available concrete finishers, and I thought that was kind of strange.

EC What?

Int. The inexperience of the concrete finishers working on the project, and I thought, gee it's towards the end of the project, and I would have guessed that there of men around who knew the work at that point, and I wondered if you remembered things like that?

EC I don't remember anything specific on that, but, I suppose, maybe toward the end of the job, why they knew that the job was coming to an end, and they'd transfer someplace else

Int. Yeah.

EC Where there was work starting up or something, I don't know. Could be.

Int. But you just don't have any strong memories of - .

EC I don't have any recollection that we had any trouble with that.

Int. Yeah. Yeah. [Pause] Let me just - Were there accidents or kind of weather conditions that you remember in particular on any of the jobs on the 9-foot channel. I mean, great moments of drama or of - ?

EC Well, there was a great moment of drama when we had a whole bunch of these H beams set up ready to drive. It must have been oh, 25, 30 of them, I guess. And, we had a high wind, and they all fell down. It was quite a dramatic episode at that time.

Int. Were there, did it happen very suddenly, and were there alot of people around the site and and all that?

EC There was nobody hurt because of it, but there was alot of damage to the H beams, of course. A lot of expense to the contractor to clean it up afterwards.

Int. Now, that something, I interviewed a man who worked for one of the contractors. He bid the job, for not one of the locks and dams that you worked on, but on I think it was no. 7.

EC He bid one of the jobs, you say?

Int. He was not the man who bid it, but he was the guy in the office who did procurement for the job and helped put together alot of the figures on the job. And he said that from his perspective in the contractors' office, one of the real problems with the 9-foot channel was the National Unemployment Relief workers on the PWA parts of the jobs. That all contractors could do was bid the jobs as they knew how, which was with the kind of skilled workers they could pick up in Minneapolis-St. Paul or wherever they were from. And, of course, if they had the

condition that they were going to be hiring relief men, it took a, he said, it took alot longer on the jobs and that - .

EC Whereas if they were able to pick their own men, you mean.

Int. And that they had bid the jobs on the types of skilled labor they were used to and that they lost money, in essence, on doing the jobs.

EC I don't know.

Int. And, I wondered if that was anything that you heard discussed or participated in discussions of - ?

EC No, I don't think so.

Int. It was not something that kind of came to -

EC No. I don't recall anyway.

Int. To mind or - . I understand there was a lawsuit after the channel was over, in which some, not all, but some of the contractors placed a claim against the Corps, and I wondered if you heard anything about that?

EC I don't remember. Possibly I knew about it at the time. I don't recall it now.

Int. It wasn't either a big deal in terms of continuing discussion among people who had worked on the channel or office politics at the Corps or anything like that?

EC Not that I recall. I don't remember that.

Int. Yeah. Yeah. Well, the most I've heard about it is this interview, and it is quite an interesting story that would require going back, I think, and looking for the documents. Because I haven't, it certainly didn't show up in the construction history of no. 7, but, apparently, whatever happened, happened a couple of years later, so it - ,

EC Oh, is that right?

Int. It wouldn't have shown up as the people in the field were writing their reports.

EC No, I don't suppose.

Int. Can I ask a little bit about this article; this is something that you wrote for

EC I don't remember much about it now.

Int. Civil Engineering

EC Published in the Civil Engineering magazine, put out by the Civil Engineer, American Society of Civil Engineers.

Int. So, this is the article "Dam Foundation Compacted by Piledriving, Settlement Observations Yield Quantative Data on Consolidation of Dredge Placed Sand Fill" and you published this article in February of 1939. And, this is one of the tests, and this is one of the kinds of things that you were looking for and observing carefully.

EC Yeah. We did that to stabilize the foundation.

Int. Uhuh. There were other articles apparently, but not alot of, some other written things, written about a few - .

EC I suppose there were, but I don't recall what they were or who wrote them.

Int. Did people in the Corps offices write articles about the construction projects they worked on fairly commonly, or was this a little bit unusual?

EC I don't really know; I don't remember how I came about to write this even. Whether somebody asked me to or what it was.

Int. When you, in your life as an engineer, as a civilian engineer for the Corps, did you participate in the Society of Civil Engineers fairly regularly or - , did you go to their meetings?

EC I was a member, I am a member of the American Society of Civil Engineers, still, yes.

Int. And go to their meetings and things like that?

EC No, I don't go to any meetings anymore. I'm getting too old for that.

near Fergus Falls, quite a few projects like that.

Int. So, you were all over this state and several others on that kind of thing.

EC Well, part of Wisconsin and part of North Dakota.

Int. Oh, I see. I see.

EC And part of Iowa.

Int. Now, did alot of people that you worked with on the 9-foot channel stay in the St. Paul District and did you work with them in other capacities over the years?

EC Quite a few. Alot of them transferred to other jobs, too.

Int. Yeah. Are there people that you can remember just in your minds' eye for me who worked on the 9-foot channel projects, too? I'm particularly interested in engineers that we might talk to about their experience.

EC Other engineers, you mean, who worked on the 9-foot channel? [Pause]

Int. Uhuh. Can I make you a trade? I will give you the pencil, if you don't do that. [Cord fiddling noise] That's great.

EC Alot of them are gone by now.

Int. Yeah. I know.

EC [Pause] Offhand, I can't think of anybody, really.

Int. Ok. Apparently there are, I mean, we haven't been able to find very many either. But I thought that those of you we have been able to find would be the best sources for men who are still around. Were there women in the offices, I mean, as I say women - .

EC Pardon?

Int. Women in the offices, did you have secretaries in the field offices or bookkeepers or - ?

EC Not any women, No.

Int. But did you, in the old days?

EC I used to, yeah.

Int. And, did other people at the Corps do that kind of thing too?

EC Oh, yeah.

Int. Yeah. Kind of the way the historians go to the Organization of American Historians annual meeting -

EC Yeah, Uhuh.

Int. And talk about your projects and your papers, about other peoples work and - .

EC Yeah.

Int. Did you write other things about other stuff that you worked on at the Corps?

EC Pardon.

Int. Did you write other articles about - .

EC No, this is the only one that I wrote. And, I don't remember too much about this.

Int. Well, you went onto other projects, I suppose, too.

EC Pardon

Int. You went onto other projects after the 9-foot channel

EC Oh, yeah.

Int. I imagine and - . Were you involved in the flood control work after this project?

EC After I was, my last construction job was, was the job, the second lock at Hastings. And after that, I went into the office and I was assistant to the engineer in charge of construction. Later on, I became engineer in charge of construction. At that time, we were building quite a few, oh, flood control projects. One at Decorah, Iowa, one at Valley City, North Dakota and one at, one near Fergus Falls - Orwell Dam

Int. No, they were all guys who worked in the field offices. Did, now you mentioned that your wife came down. I know that Frank Daley's wife came down to Winona when he worked on the 9-foot channel. I've been thinking it might be interesting to talk with some of the wives about their experiences living in these towns as kind of temporary residents, too.

EC Well, my wife at that time, she passed away in 1937.

Int. Oh.

EC I've been married the second time, now.

Int. Oh, well.

EC My first wife died in childbirth.

Int. Oh, what a shame.

EC Which is kind of unusual. I mean, nowdays anyway. Back then, it wasn't too uncommon, I guess.

Int. That's a shame, and it has become much more uncommon.

EC Oh, yes.

Int. So, your wife now couldn't tell me about that, anyway; she's not - .

EC No, no, she wasn't with me on any jobs.

Int. Is the pattern that you had as an engineer fairly common, that you spent maybe 10 or 12 or 15 years in the field and then you kind of move up into an office and become - ?

EC Well, I don't know if it is common or not, but that's what happened to me. It could happen to other people, too, I guess.

Int. Yeah. Yeah. Let me just. [Machine off momentarily] Something I noticed and I don't know if it's significant or not, it just interested me. And I wanted to ask you about it, cause I know you worked on this project. It said in the construction history for dam no. 4 that the personnel who built, the contractor who built lock no. 4 which was, I

don't know if it's Ouilmette or

EC Ouilmette Construction Company.

Int. Was nearly exactly the same as United Construction Company, which built the dam.

EC Uhuh.

Int. But that they bid for it under a different name, and I thought that was kind of puzzling. Why would they do that? Was there any story behind that?

EC Well, there was a change in the organization, the contractor's organization, someway, I don't know exactly what it was.

Int. But it just - .

EC Some of the same personnel were there for both jobs, and they just someway changed the name to United Construction Company.

Int. Was there any advantage to people, I noticed that people were from as near as Minneapolis

EC Pardon?

Int. There were contractors from near as Minneapolis and LaCrosse and Winona on these projects, and they were as far away as New York City.

EC Yeah.

Int. And -

EC Spencer or, what is the name of that construction contractor at no. 3?

Int. Oh, it was, oh, you've got no. 3. It was -

EC Gutherie [A. Gutherie & Co., St. Paul, MN]

Int. Yeah.

EC And -

Int. They were from New York and Spencer, Merritt, Chapman [Interviewer in error: Merritt-Chapman & Whitney of Cleveland, Ohio built dam no. 5.], whatever, they were from New York too. Spencer, Prentis

whatever they were. [Spencer, White & Prentis] And it struck me, I mean, I was surprised that people would come all that way. But these were big construction projects, weren't they for the time?

EC Oh yeah.

Int. I mean these budgets of a million and a half dollars per, were quite large, compared to what people were doing.

EC I suppose they were all looking for work at that time, during the Depression, you know.

Int. So. Now, there is one other thing that I wanted to ask, and that is about your own pay within the Corps of Engineers at the time. Did you guys, were there federal paycuts, as you remember?

EC Paycuts?

Int. Paycuts during the Depression?

EC We had to work one month without pay.

Int. Every year?

EC No, just that one year, during the Depression.

Int. What year was that?

EC Oh, it must have been in, when we were building no. 4. Must have been in '31 or '32 somewheres in there.

Int. Ok, so early on, and then after that your salaries went up to whatever they had been before?

EC Yeah.

Int. And you kind of went on you, did you get any pay raises during those years?

EC Oh, some, yeah.

Int. So, once the worst was over, things got back on an even keel for those of you within the Corps?

EC I've never had a reduction in pay except that one time when we had to work one month

without pay; that's the only time that I've had any reduction in pay.

Int. Ok. I just wanted to ask about that, because I've encountered some material about a reduction in pay, but I had no -

EC No.

Int. No idea how long it lasted or whether it was an individual matter or. So I just wanted to kind of ask the other people that I could -

EC Well, it applied to everybody on the job.

Int. Everybody who, all the Corps people who were working on it.

EC Yeah. I don't know whether, I suppose it applied to the people in the office up here in St. Paul, too, I don't know. I would gather that it must have.

Int. Was that a tough thing to handle, I mean did it make people mad, or did they just figure that it was - ?

EC I don't recall any particular trouble about it. I suppose it got kind of hard for people in the lower grades that were earning, say, $1,600 a year, or something like that, to take a month off without pay.

Int. Was that a common thing? I mean did you know school teachers or business people who were having to do the same thing in those Depression years?

EC No. I don't recall.

Int. Do you remember what grade you were in those years, when you were working on the 9-foot channel?

EC I started out as a Junior Engineer, and I think I got promoted to what they called Assistant Engineer when I was down at Alma.

Int. So you were half-way up the grade, weren't you? Those were days when there was four grades of engineers, is that right?

EC Well, there was Junior Engineer, Assistant Engineer, Associate Engineer, Engineer,

Senior Engineer, and Senior Engineer is as far as they go, I guess, as far as in the District is concerned.

Int. Ok. Now is there anything that I've asked that has kind of triggered something or anything that you would want to tell me or put on the record about your work with the 9-foot channel or - ?

EC No. I can't say that I can think of anything right now. I enjoyed the work very much. In fact, I've enjoyed all my years with the Corps of Engineers both in the, on construction and in the office. I can't recall a single day that I dreaded to go to work, really, in 37 1/2 years.

Int. That's a good thing to be able to say about where you worked. Is there anything when you think about your work and the people you knew at the Corps, and maybe other engineers that you have known other places, who worked in other places, was there, do you think, is there such a thing as a personality profile for the Corps of Engineers engineers. Or certain kinds of people who gravitate towards the Corps of Engineers or towards other work?

EC No, I don't think so.

Int. A little bit of everything in your - ?

EC They're the same as other engineers, I think, working for other people.

Int. What's the best part of being an engineer from your perspective? What is the part of it that you liked the best?

EC What is the best part of it?

Int. Uhuh.

EC [Pause] Oh, I suppose being connected with a project where you can see something actually come to life. See the results of your planning and result of your construction work and see it materialize into something that is useful. [Pause]

Int. Ok. Anything else you would like to - ?

EC No, I don't think so.

Int. Ok. Alright.

[Tape shut off]

Int. Now, you were just mentioning that the crew at lock and dam no. 3 was much bigger than the crew at no. 4. That you had, it was the last of the locks in the 9-foot channel series that the St. Paul District worked on and that you were doing some extra work. You had more contracts going at the no. 3 operation, including channel dredging and channel markers. And while the tape was off, I just started thinking about another chain of thought which is, as I have been doing the research to do these oral histories, I have read alot of stuff in various libraries up and down the river from St. Paul to LaCrosse and farther south, on the way the 9-foot channel has operated over the past 50 years. And I have formed the impression, please correct me if I don't have this right, that a consequence of building the 9-foot channel kind of stairstep has been a change in the pattern of siltation and a new form of regular dredging has become necessary to maintain the 9-foot channel. Now, you, are saying no, that is not quite right. What's the way to understand this?

EC I don't know. Even before the locks and dams were built, of course, there was always siltation in the channel. That comes all the time in any river, the siltation. Sediment is carried along and then deposited in the channel. And I suppose that might be true that after the construction of the locks and dams, the siltation might have been a little bit greater because of the fact that there was very little current in the river.

Int. Now, because of the locks.

EC So it locks it up and there's a reservoir of each dam and, of course, there isn't much current there, so the sediment that is carried by the river would be deposited before it reaches the dam.

Int. But this wasn't something that was in your minds when you were building?

EC No, I don't think so.

Int. When you were building the, to the best of your recollection, I mean something that I have encountered, and I don't know exactly how to interpret it, so I will just ask somebody who was there at the creation. It appears that alot of the bottoms are filling, around the locks and dams, on that whole stretch of the Mississippi are filling in alot faster than people imagined that they would after the locks and dams were built. And that in some way people assumed that once the 9-foot channel was built, the Mississippi would stay the way the Corps of Engineers had made it in 1939, and it wouldn't change. But that is not what's happened.

EC No, alot of the backwater sloughs are filling up, because there's much less current in the river. And current doesn't carry the sediment along like it used to; it deposits it.

Int. Now, did you guys anticipate this situation?

EC I don't know anything about it.

Int. I mean, you were building the locks and the dams. And the idea was to get stuff up and down the river between St. Paul and St. Louis and ultimately New Orleans. So that whatever has happened on the river in the past 50 or 60 years is something that both the Corps, would it be fair to say both the Corps and the people along the river are figuring it out or - ?

EC I imagine that the people that designed the locks and dams probably anticipated that something like that would happen, I'm not sure.

Int. I get the sense that work at the Corps and perhaps, I don't know is it true of engineering, generally, is very compart-mentalized. I mean that people work on sections of problems and they bring it all together in a structure, but if you're working on construction you don't necessarily work on design, although you did at least once -

EC That's right.

Int. In no. 2.

EC That's right.
[Tape shut off]

Int. Tell me what you told me about the winter of 1936.

EC Winter of 1936 was one of the worst winters that I can recall. We had, most of us lived in Red Wing, of course. So we had to get out there by car in the wintertime, and we had to fight sometimes 20 foot drifts in order to get out there. The contractor would sometimes provide a machine to clear the road for us.

Int. So you could get to work in the morning.

EC So we could get to work.

Int. And, of course, lock no. 3 is out in Welch, Minnesota in kind of an isolated, I guess, it must have been sloughs before it was put together to be the - . It's very pretty, but it must have been - .

EC There were alot of sloughs there, yeah.

Int. Now, the Prairie Island Indian Reservation is out there, too. Was it there then, too. I mean, did you know? Did the Indians work on the project at all?

EC Some of them did. We had a guard down there that was an Indian. In the summertime, we drove out there by car. We had one, kind of a bus assigned to the job, that belonged to the government. And then, some of us used to ride out there by boat. Took a boat, a launch, we took a launch from Hastings, I mean, from Red Wing out to the job site.

Int. Oh, that must have been a nice way to travel.

EC It was.

Int. Huh. Now, were there other weather conditions or things like that that you remember? You said that on no. 3 it was a harsh, harsh winter. Were there other things like that that, or quite unlike that, but equally noticeable?

EC I don't recall if any other weather conditions that affected the job like winter did.

Int. Now, is this the job that you had freezing piles that shattered and all that kind of stuff?

EC Yeah. Yeah.

Int. And so it just really, the cold affected everything you tried to do?

EC Yeah. It did.

Int. Were you down alot; I mean, were there days you couldn't work because it was so cold?

EC Oh, not too many, I don't think. But there were some things that couldn't be done, of course, during the bad weather. I remember we used to drive piles in almost any kind of winter.

Tape 2 Side 2

Int. Something I notice with a great deal of surprise is, when I was looking at the construction histories, was that on some occasions, the contractors for the 9-foot projects seem to have done alot of concrete work in the wintertime. I would have guessed that that was a lousy thing to do. You know, and heated up with salamanders and all that kind of stuff -

EC Oh yeah.

Int. I thought you tried to avoid that kind of thing in construction projects. But no - ?

EC Oh, no, we didn't try to avoid it.

Int. You -

EC We just made provisions so the concrete wouldn't freeze, that's all. Covered whatever the area we were going to pour concrete in. Then we heated it afterwards.

Int. So this was standard operating procedure by the time the 9-foot - .

EC Oh yes. Yeah.

Int. Did things like that add to the cost of the construction or - ?

EC Oh sure.

Int. But -

EC But, the contractor knew that when he bid the job, that he was going to have to do that.

Int. I see. I see.

EC It was no surprise or anything.

Int. Ok. So that was just - people knew how to do that, and people knew how concrete acted under those circumstances and you just allowed for it - .

EC That's right.

Int. In the job. Was the kind of hurry to get it done because of the Depression money or because - . I mean, did - as you remember the discussions around the Corps, did people think that if it wasn't just done all of a sudden like this, they'd lose the money, or they would lose the will?

EC I don't think so. I don't think so. Each job when the specifications were drawn up, they had a set date in there it was supposed to be completed, and that is what the contractors strove for.

Int. Uhuh. Were delays, I noticed that sometimes oh, I'd see things like 10 days delay or 30 days or 60 days, were those kind of standard in construction projects of that scale?

EC [Pause] I suppose there were delays in - , any construction there is bound to occur, certain delays, I suppose. I don't recall that we had any big ones.

Int. So -

EC For any particular reason.

Int. The kind of thing that I saw in the record would be within normal, kind of - ?

EC Uhuh. Yeah.

Int. So far as you can remember?
EC I think so.

Int. It wouldn't occasion comment?

EC No, I don't think so.

Int. Well, I know sometimes in now - I am aware that in some kinds of high pressure big city jobs, there is often a bonus for coming in under -

EC Oh, yeah. Uhuh.

Int. Did the Corps do stuff like that?

EC No. No. No.

Int. I didn't notice anything like that. Ok.

U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT

ORAL HISTORY INTERVIEW FORM

Narrator Name: Frank A. Daly

Address: 3209 Fourth Street, S.E., Minneapolis, MN 55414

Date of Interview: June 10, 1988

Place of Interview: Daly home, 3209 Fourth Street S.E.

Name of Interviewer: Jo Blatti

Project Title (if any): Pilot Interviews, 9-foot Channel Project

Narrator Biographical Information:

Full name (including maiden name): Frank A. Daly

Year of Birth: ca. 1904

Spouse's full name: Dorothy Daly

Subjects Discussed:

Most of the tape concerns Mr. Daly's education and early career as a civil engineer from the 1920s-1930s. He began working for the Corps in 1932; 9-foot channel assignments included design work on dredge Cahaba, inspection crew at lock and dam no. 4, office and inspection at no. 5.

Specific interview topics include: the writing of his memoir; a $200 per annum pay-cut early in his career at the St. Paul District; education at the University of MN; college job drafting at the "U", first job 1928 with the Elgin, Joliet & Eastern railroad in Joliet; subsequent positions with the Interstate Commerce Commission and the Division of Airways in Washington, D.C.; decision to return to Twin Cities for family reasons; effects of Headwaters reservoirs and wing dams on Mississippi River flow; work with men who were not engineers. Several incidents, notably the $200 pay-cut circa 1931-32 and difficulties with supervisor without engineering training, are repeated several times in the interview.

TAPE RECORDING:

No. of Cassettes: 2 No. of Reels & Speed: ---

Length of Interview: 2 hours

Release form signed (date): June 10, 1988

Restrictions (if any): --

Comments:

Mr. Daly suffered a stroke in the spring of 1988; this was not known to the interviewer prior to the interview appointment. Although he appears to have [illegible] memory in all aspects, this recent illness may account for some [illegible] personnel, name recall, and interpretation of interviewer questions.

TRANSCRIPT:

Date completed: -- No. of Pages: --

Restrictions (if any):

Comments:

Mr. Daly reads verbatim from his memoir, Profile of a Priceless Legacy, at many points throughout the interview. A retirement project, the privately published memoir (800 pp.) chronicles multicontinental family history. For Mr. Daly, the memoir appears to be his primary text for reminisence.

TAPE INDEX
Corps/9-Foot Channel Pilot Interviews
Interview with Frank A. Daly
June 10, 1988
(2 hours)

Tape 1, Side 1

0 mins. Explains his book [Profile of a Priceless Legacy] as retirement project.

5 mins. Reads excerpt describing his early acquaintance with John Wade at St. Paul Office, their conflict over $200.00 per annum pay reduction circa 1931-32.

10 mins. Wade story continues.

15 mins. University of Minnesota engineering background, shows picture [circa 1925] of himself and Elmer Christenson with 2-3 dozen other members Mortar and Ball fraternity.

20 mins. Early hopes to be doctor or newspaperman.

25 mins. Chose engineering on basis drafting, wouldn't take as long as medicine.

Worked way through college as draftsman at University department buildings and grounds.

Prof. Cutler in engineering department took a liking to him.

Tape 1, Side 2

0 mins. Post graduate expectations to try for Minneapolis/ Hennepin County engineering job.

Actually got first job with Elgin, Joliet and Eastern Railroad through Prof. Cutler at the "U," starting salary $2000 per year.

5 mins. Explains railroad valuation with Interstate Commerce Commission (ICC), where big money seemed to be.

10 mins. Gets job with ICC in Washington, proves disappointing-- more bookkeeping than engineering.

15 mins. Moved on to another federal position with Division of Airways.

Explains job locating emergency landing fields along major air routes [circa 1930]

20 mins. Laid off December 1931 after Depression hit.

Explains generous travel per diem attached to Airways job.

25 mins. To Corps of Engineers, St. Paul District January 1932, notes difference between St. Louis District offer $2,000 per year and St. Paul officer $1800.

Tape 2, Side 1

0 mins. Describes unsolicited recommendation from former employer at Elgin, Joliet to Corps office in Duluth [MN], also his own letter to MN Senator [possibly Shipstead].

Reads excerpt from memoirs about joining Corps.

6 mins. Notes that mother [resident in Minneapolis] had been urging his return to the area, suggesting 9-foot channel project an opportunity.

Shows interviewer picture of mother as young woman.

10 mins. Tells of Washington meeting with sweetheart [later wife] Dorothy, also from Twin Cities.

Discusses inadequacies of Headwaters reservoirs and wing dam system in terms of Mississipi flow.

16 mins. Wing dams flooded in 9-foot project; importance of channel markers.

Characterizes engineers as smart people who make a lot of mistakes.

Returns to inadequacies of Headwaters and wing dams.

Indicates that 9-foot locks and dams designed in St. Louis.

20 mins. Discusses re-planning of high dam [Ford dam] and lower lock, general possibilities hydroelectric and navigation dams on Mississippi [Note: point here not entirely clear, seems to be asserting general desirability of hydro-electric.]

25 mins. Early job with Corps, drawing plans for dredge Cahaba.

Digression on grandfather's career as miner in Australia, New Zealand, constable in Belfast, Ireland.

Tape 2, Side 2

0 mins. Ultimately worked for guys who were not engineers at Corps.

Story of work-boat operator promoted, ultimately in charge operations division.

5 mins. Continues story of supervisor without professional training.

Was concrete inspector, first pour at no. 4.

Made pitch for office engineer at no. 5, had to wait for contractor's plant to arrive.

10 mins. Returns to story of the $200 difference his actual pay and posted salary for junior engineering position at Corps.

Story of supervisor (Smoker) who didn't know how to figure stresses.

Repeats story of stresses.

15 mins. Story of Corps colleague asked out to Maine to work on special projects.

Continues to recount difficulty of working for man with half-year high school education.

In response to interviewer's question about community of younger engineers at Corps, suggests every man for himself.

20 mins. Notes difficulty of passing his book around given comments about Smoker and others.

Story of the Smokers' son.

25 mins. Repeats concern that his book could give offense.

U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT

ORAL HISTORY INTERVIEW FORM

Narrator Name: Joseph McDonald

Address: 3625 Pillsbury Avenue So., Minneapolis, MN 55409

Date of Interview: June 10, 1988

Place of Interview: McDonald home, 3625 Pillsbury Avenue So., Minneapolis

Name of Interviewer: Jo Blatti

Project Title (if any): Pilot Interviews, 9-foot Channel Project

Narrator Biographical Information:

Full name (including maiden name): Joseph McDonald

Year of Birth: ca 1896

Spouse's full name: Not Known

Subjects Discussed:

Principal topic is Nolan Brothers contract for the construction of lock no. 7 on the 9-foot channel project of the Mississippi River, 1934-35. Mr. McDonald was a member of the office management team in Minneapolis, ordering equipment and supplies for the job. Mr. McDonald discusses bonding and bidding requirements for public works projects of the period; the difference between highway and dam contracts, generally; equipment needs from contractor point of view; 1930s as prosperous time for public works contractors; difficulty of PWA restricted hours on no. 7 project; contractors' lawsuit arising from no. 7 work; difficulty of unskilled labor on 9-foot project; relations with St. Paul District staff on-site and at district office; his own career in construction; no. 7 cofferdam and yard; subsequent experiences with Corps of Engineers projects.

TAPE RECORDING:

No. of Cassettes: 2 No. of Reels & Speed:

Length of Interview: 1 hour, 35 minutes

Release form signed (date): June 10, 1988

Restrictions (if any): -0-

Comments:

Mr. McDonald's voice frequently trails off at the end of sentences and phrases; however, the content of his recollections appears sharp and consistent.

TRANSCRIPT:

Date completed: July 1988 No. of Pages: 41

Restrictions (if any): -0-

Comments:

TAPE INDEX
Corps/9-Foot Channel Pilot Interviews
Interview with Joseph McDonald
June 10, 1988
(1 hour, 35 minutes)

Tape 1, Side 1

0 mins. Describes background on Burnsville/Lebanon township [MN] farm.

Early work in construction--Great Falls, MT; Pacific Gas and Electric in CA; with St. Paul plumber, both electricity and plumbing (circa 1910s and 1920s)

Position with Nolan Brothers in early 1930s.

Bonding requirements public works

5 mins. Lock no. 7 first Corps contract for company.

Difficulty of using unskilled PWA workers on the job.

10 mins. Discusses association formed by Nolan brothers/A.A. Prendergast for lock no. 7 job.

His responsibilities for supplies and equipment purchase.

17 mins. Digression: state highway system not built for trucks, comparison trailer-tractor rigs to railroad boxcars.

Explains how contractors acquire and use heavy equipment on per job basis.

21 mins. Story of boss's [one of Nolan brothers] penchant for aged equipment.

Describes non-mobile derricks used for lock no. 7 construction.

26 mins. 1930s as prosperous time due to public works contracts, more volume than ordinary.

Tape 1, Side 2

0 mins. Characterizes lock no. 7 as big job financially, but not technically.

Prendergast in residence at summer cottage near Dresbach for duration of job.

Describes Army engineers as pushing for promotion.

10% expected profit on public works contracts.

Bidding as study of competition.

5 mins. Repeats observation concerning inexperienced workers at lock no. 7.

Regarding shiftwork among Corps inspection staff, notes problem disapproval concrete forms approved by earlier shifts.

Suggest good attorney as first requirement government contracts work.

Notes lawsuit involving 11 contractors [including Nolan Brothers] following lock no. 7.

10 mins. McDonald got involved through accounting, foundation of claim; costs associated with unskilled labor basis of claim; 3 weeks in court 1936; Spencer, White, Prentis spearheaded claim.

WWII ended their claim; none involved received any money from government.

Discusses subsequent Corps contract in Oklahoma, argument over weather conditions for concrete pour.

15 mins. General comparison working relationships with Corps and state highway personnel over his career.

Suggests that trouble with Corps staff at lock no. 7 limited to project engineer.

20 mins. Notes that Nolan Brothers didn't bring any who learned skills on the job out of lock no. 7 contract.

25 mins. Describes techniques for winter concrete construction, salamanders, etc.

Tape 2, Side 1

0 mins. Returns to comparison highway, barge and railroad transport, question of historical subsidy, Montana example.

5 mins. Describes balance Nolan Brothers contracts: Montana roadwork, Minnesota (Minneapolis, especially) bridges and overpasses.

10 mins. Describes his own high school education, learning management by experience in contracting.

Describes work experience with Nolan, followed by Industrial Construction and a third parttime position following retirement in 1968.

16 mins. Notes that Nolan and Industrial did same work in concrete and steel erection, lock no. 7 association enlarged their capacities.

Describes cofferdam and yard lock no. 7.

20 mins. Notes change from rivets to air equipment in steel erection, story of Foshay construction in Minneapolis.

Notes difference between 9-foot channel and Bonneville, TVA projects of the period; Bonneville and TVA much bigger.

Describes pumping and pooling systems for construction at lock no. 7.

Notes subsequent work on Corps contracts in New Mexico for World War II airbases.

25 mins. Returns to personnel issues on lock no. 7, especially project engineer.

Suggests that mobile, non-local character of many Corps engineers made a difference in working relationships; this is in contrast to state highway engineers, who were more likely to have longtime knowledge and commitments in work area.

Tape 2, Side 2

0 mins. Big problems public works contracts financial and ability to handle crews, technical specifications tend to be routine.

Discusses 2 photographs from lock no. 7 construction history: #122 (concrete forms for guidewalls) and #131 (derrick)

5 mins. Off.

Interview with Joseph McDonald
by Jo Blatti
June 10, 1988
Corps/9-foot Channel Project

Tape 1, Side 1

Int. This is Jo Blatti interviewing Joseph McDonald in his home on Pillsbury Avenue in Minneapolis. It is Friday, June 10, 1988, and this tape recording is being made for the Corps of Engineers oral history project on the 9-foot channel of the Mississippi River.

Could I ask you Mr. McDonald to just give me a little bit of background on yourself; were you born and raised in Minneapolis?

McD No, I grew up out here. You know where County Road 42 is?

Int. I have an idea of where it is, yes.

McD I grew up right straight south of Cedar Avenue on County Road 42.

Int. Would that have been the country in those days?

McD Much of it was country.

Int. Was your family in farming or - .

McD Farming.

Int. I see.

McD My dad had a farm there.

Int. Did you live in a particular, would this have been Burnsville Township?

McD Burnsville and Lebanon.

Int. Lebanon.

McD We lived right on the edge of the two townships there, along County Road 42.

Int. Now, how did you get into the construction business as a young man, or were you a young man when you got in?

McD Well, I was more or less involved in it from the time I got out of high school. I, uh, off and on. I worked for awhile I worked in

Int. I am sorry, where?

McD Great Falls, Montana for about a year. And then I worked for Pacific Gas and Electric Company in California, worked out of San Francisco repairing powerhouses and sub-station work for awhile, and then I came back here. This fellow I knew from Rosemont, he'd been a small time contractor there building houses and barns and such stuff. That was a time when the first highway was built out of St. Paul.

Int. Now, which highway would that be?

McD I believe it is number 3, the highway from St. Paul through Farmington and Albert Lea and Owatonna

Int. I see.

McD Down in through Iowa. And I worked for a plumber over in St. Paul for awhile after I came back from California. And I worked both ends of the business with him, and -, did electrical work and plumbing.

Int. I see.

McD But then this fellow got into this road building business and he had nobody to take care of his office, so I got in with him. And then we merged in with this Nolan outfit, because they were bigger and had more prestige, so far as bidding on work was concerned

Int. I see.

McD And qualifing to bid on work. Your qualifications were bonding and whether you had money enough to finance the job.

Int. I see.

McD Qualified you to bid on these public works

jobs.

Int. Do you remember about when you got into the Nolan Brothers outfit - would it have been the 20s or the - ?

McD I came over here to Minneapolis in 1924, and this fellow I was working with, he had a partnership with an engineer that had been with the Highway Department; but he only stayed with them three or four years. But we merged Nolan Brothers in 1933.

Int. Oh, so this - you would have been fairly new with Nolan at the time that the lock and dam job came up?

McD Yes, I was.

Int. Would this have been one of your first projects with them?

McD No, I had been working on some of the other deals. I handled the bridge end of this stuff for Nolans.

Int. I see.

McD But when we got into this job, we didn't have any other work. Took all the financial skill and ability to manage a job like that. You couldn't have too many strings going at the same time.

Int. Well, you know, you were just mentioning bonding to me as one of the most important things in these big public works jobs and I noticed in reading this report that it took Nolan Brothers three months to come up with the bonding for lock no. 7.

McD It was much larger than their capacity had been before on any one particular project.

Int. I see.

McD But both Industrial, Industrial had built some of these projects on the lakes up at Duluth, you know, the harbors there which were concrete.

Int. I see.

McD Based on heavy construction and concrete

but Nolan's had started on, well everybody when I first got into this business, the Highway Department as such had been organized, but it hadn't been developed to a point where they were beginning to build all over the state.

Int. Uhuh. Excuse me. Could I shut that door. Would that be a problem? The talking is coming into here.

McD Oh, sure that is alright.

Int. Just one minute here. If I could, I am just going to shut this door, ladies. Well, if I can figure out how to do it that is.

McD Just put your foot on that thing down there.

Int. Got it. Ok. Thank you. So, this the Corps job at lock no. 7 was, I guess it was a 1.3 million, 1.4 million dollar job.

McD Yeah, recollection somewhere along in that figure there.

Int. Would it be that Nolan Brothers was doing more like $300,000 or $400,000 jobs at that time.

McD The average contract would run about that. $300,000 or $400,000 was a good sized job in those days.

Int. I can imagine.

McD But their work was mostly dirt moving and concrete and asphalt paving.

Int. I see.

McD Before that and those jobs, that was with the State of Minnesota. This job was their first experience with Army engineers.

Int. And how did it go?

McD Well, that's what I say, my opinion of the Army engineers and the experience we had with them, the least I say the better I think for this record.

Int. Well, I don't know, I would be interested in and the Corps would, too. If you have

comments or criticisms, we'd like to hear them.

McD — Well, for one thing we worked three 8-hour day shifts, and we were not allowed to take any help from outside of the area down there except personnel, key men they called them, superintendents and carpenter foremen and such as that. But the problem was that there were three or four of those jobs between LaCrosse and Red Wing, one was at Red Wing, all going at the same time. And there were no skilled mechanics of the type carpenters and crane operators and such as that, there was no surplus of them.

Int. — So you all had a hard time getting the skilled workers that you needed.

McD — Well, they had to hire carpenters that never had any experience as carpenters and this fellow by the name of Prendergast, he was the head of this Industrial outfit. He was the one that bid the job. He told me one time, he said he had fired carpenters and hired them back again because the ones he got in place of them were worse than the ones he fired.

Int. — Huh

McD — But actually, he said he trained carpenters. We were down there about, I forget, two years or three years. Two years, I guess. But he trained carpenters on that job. But that was the biggest problem with the engineers. They would not let you take, we couldn't take a carpenter from Minneapolis here down and put them to work, or a crane operator or any of the skilled trades on the type of job there.

Int. — Now, did you deal directly with the Public Works Administration in hiring halls or any of that as part of your job with Nolan Brothers?

McD — No, I didn't. I had contact with all of them but this Prendergast, he had more experience in that heavy construction of that type.

Int. — No, was Mr. Prendergast a subcontractor on this job?

McD No, he was an associate contractor.

Int. I see. Now did -

McD As I say, he bid the job.

Int. Oh, the whole job, the whole Nolan Brothers job?

McD Yeah. Nolans went in as full partners on the job, but Prendergast did the bidding-

Int. Oh, well let me look him up.

McD Nolans had an engineer with them, but he hadn't had too much experience with that type of work either. He had been with the railroads for years through the west.

Int. Let me just look him up while we are talking about him and see, cause I wanted to ask you about the contractors and the subcontractors on this job. The contract is in the Nolan Brothers name. From what you're telling me I am wondering why Mr. Prendergast's name isn't at the top instead of Nolan Brothers.

McD Nolans had better financial stability.

Int. Oh, I see. Alright.

McD They operated not under Prendergast's name as individuals, they were the Industrial Construction Company.

Int. Ok.

McD And Prendergast as such, he was a very brilliant man, very good man, but he was not the type that got much publicity on his own accord.

Int. Cause, I am looking at The Oakes, The Neumann Oakes Dredging, the Sterling Electric, AT & T-

McD Sterling was subcontractors, electrical.

Int. Right, H. Knudson from Chicago.

McD I don't recognize them.

Int. Kruckenberg Roofing Company from Minneapolis.

McD No

Int. Conners Heating, Plumbing and Ventilating from Minneapolis.

McD Well, they all worked with Nolans.

Int. And Drake Marble Company from St. Paul and I don't see Mr. Prendergast's name that's why I'm, or the company name.

McD Well, like I say, he was, he actually ran the jobs and stayed on it all the time.

Int. Oh, ok.

McD But he was not a publicity hound.

Int. So, maybe he will show up on page 44 of the lock [construction history]

McD Very few people recognize the ability that man had.

Int. Ok

McD Unless you worked with him.

Int. Now, again this is very interesting because under, in this report which is the lock no. 7 construction report from the Corps of Engineers, they list the Nolan Brothers organization, oh here it is A.A. Prendergast along with W. L. Nolan and A. T. Nolan, who were the brothers, I take it?

McD Two brothers, the Nolans.

Int. Ok. And then

McD Prendergast was the Industrial Construction Company.

Int. I see.

McD Primarily, he was the one who organized it and built it up. But as I say, they had done some of this heavy type of construction up on the lakes and the docks up there.

Int. Now, who did you work for?

McD I worked for Nolans.

Int. And then, was there someone else, like there is the Chief Clerk or somebody that you would work with or - ?

McD Well, I worked with the bookkeeper or the office manager at Nolans. I worked with him, that is, I was in the office with him all the time, but I didn't work on much of anything. Well, they didn't have anything else. I bought the materials for it, and checked all the materials for that job.

Int. I see. I see. Now who was the you were saying you were in the same office as-

McD A fellow by the name of Moran, J.T. Moran. He was the office manager for Nolan Brothers.

Int. And, so you were buying all the materials, that were needed for this job.

McD Well I bought the materials, of course. Buying materials is, you buy what they tell you to buy.

Int. Uhuh.

McD They have to tell you what they want first.

Int. Uhuh.

McD And some of the time, of course, all of these people had had experience before. Sometimes they would go out and order things themselves. But when they were stuck for stuff, they would call me from the job and tell me to find it.

Int. I see.

McD I'd run into things I had never used before. But like the machinery and stuff like that, everybody had their hand in it, but the big boss had the final say on that kind of stuff. Big heavy cranes, equipment that they would use, they decided what type you bought and all I did was pay for it, and check it to see that the prices were right.

Int. Now did you actually go out looking for it, or was it mainly a telephone and office job?

McD Well, there was all standard equipment, and

most contractors had equipment of the same type.

Int. So you were renting from other people who -

McD No, there were cranes that they used. These mobile cranes and also what they call a crawler crane. They have a catapillar. All contractors need them on any kind of work.

Int. Now, would you rent these or lease these?

McD No, I bought them.

Int. Oh, you'd buy them and sell them to somebody else when the job was done, or keep them for your own motor pool?

McD That was one of my biggest gripes with my boss, Bill Nolan. He seemed to have an affinity for old equipment. This job was the first one of that kind. We built another job just before I left them, it was just a couple of years before I retired. In Oklahoma, we were down there three years. We put in a concrete outer works for an earth filled dam. There was 35,000 cubic yards of concrete in that job and that was for the Army engineers and it was the same type of heavy construction but much more so than this lock job. So that they had always been sizeable when it come to paving. There was only about 5 paving contractors in this state, local contractors here, that did paving.

Int. Now, I would have thought that doing the kind of concrete work for a dam and doing highway paving would be two very different kinds of skills.

McD It was very much different. But concrete's concrete.

Int. I see.

McD No matter what shape you put it in.

Int. So if you know how to mix it, you do.

McD The primary problem is to mix it according to specifications. For every particular job, you get a set of specifications. It runs

pretty much the same, the average mixture of concrete but depending on the types. That's one of the things that's the matter with this state highway system in all states now. These roads were not built for trucks. And they are the ones that are batting the hell out of these roads. When the State Highway Departments built the roads, they were built for passenger cars and light trucks.

Int. So these very large rigs are -

McD Well, you've seen them on the roads; they have what you call a trailer on them, the trailer part of it, the tractor they can hook that on any one of these type of trailers. Those things haul as much as a standard railroad box car does, which the average railroad car runs from 35,000 pounds to 50,000 pounds and a passenger car or a normal, what they call just over-the-road trucks like contractors and farmers and everybody else uses, they wouldn't weigh over 4,000 pounds and the roads were designed for that stuff. There is some of these bridges that we couldn't even move our cranes over when we were working on, they wouldn't let us put these big, heavy cranes across on the bridges. They weren't designed to take the load.

Int. Now, you are talking about the 30s and the 40s when you say this?

McD Yeah, back in the 30s. This lock was built in the 30s. Around '33 that we were down there.

Int. Now, can I ask a question, you know about the equipment, you were saying that the contractors bought the equipment for these kinds of jobs, they didn't lease it necessarily. So the point of every job is, in a sense, if you are buying your own equipment to kind of add to your own equipment stable as part of your cost of your-

McD Right.

Int. Is that a correct interpretation of what you -

McD Mostly all contractors, of course, as a

general rule especially on grading equipment, it had a capacity of so many years. Most contractors got rid of it when they finished one job of any size, before they started another job of similar size, would get new equipment.

Int. I see. You would sell the other to the used market or something.

McD Yeah. Yeah, you could get rid of the stuff. Other smaller contractors could buy this stuff and use it because they didn't put it to the heavy construction type of work the big outfits did.

Int. Now, you said that your boss Bill Nolan had an affinity for old equipment. It sounds like you were always fussing with him, like why don't you buy something newer.

McD Well, the job in Oklahoma, he had equipment that he had paved this section of road here in '32. We were down there in '48 and he started out there and poured 35,000 cubic yards of concrete in two concrete mixers that were worn out. And he sent me down, they were both stored,one down in Illinois and one in Oklahoma or Ioway. He sent me down to ship them out into Oklahoma. I got there. One of these mixers, you know, where they have a big round drum on them, you could chase a cat out in any direction of them. They were worn through.

Int. Oh.

McD But I got orders to ship them. We got them down there and started to try to pour one day, and neither one of them worked. So we went out and bought another large type with a capacity of more than, what they call a yard capacity, a 3-yard capacity. Three yards an hour mix. Went and bought a brand new mixer to finish that job.

Int. Now, are there equipment problems or situations that you remember on lock no. 7 as a job?

McD Oh, not too much. They, in those days, they used what they called derricks. I don't know whether you know -

Int. People have pointed them out to me as special, and I don't - what is special about derricks?

McD Well, they are non-mobile to begin with, and all they are is - well, take a situation like this. They have one piece that comes out like this and one out like that. It is long, and then they put weight on both ends of this. Well, the boom that picks itself up with is right opposite that. You have to have enough weight here to offset the amount of weights you are going to pick up with that boom. But they have to be taken apart to move.

Int. Oh, so you have to move them to each location that you want to use them.

McD Yeah.

Int. So, that there is a lot of down time - ?

McD When they came out with these cranes, those things, they built both types. What they call a mobile crane, they were put on an automobile or truck. Mounted right on a truck and you could move them anyplace around the country. They had rubber tires, but in the heavy work where they weren't moving too much, where they had large amounts of dirt to move within confined territory, they used a crawler crane. Because they were a little bit more rugged than the other type, and also they didn't have the problem with the tires that they would have with the pneumatic tires.

Int. You mean that there might be too much weight and the tires would sink?

McD Well, they would wear out fast in that rough type of work.

Int. I see. Would it also be that with a stationery crane that had to be disassembled when it was moved, that you could get a wider load base?

McD No. You could move them, but you couldn't move them across country.

Int. I see.

McD You had to load them on a flat car.

Int. I see. I see.

McD Take you six months to go from here to Winona.

Int. Now it looked to me and you tell me - well, let me ask you another question first. Did you go down to lock no. 7 alot and visit the site in person?

McD No. I was down there back and forth, but everything was done over the phone. I was in contact with them most everyday.

Int. I see.

McD And this Bill Nolan, the big boss, he went down everyday. Drove down and back everyday.

Int. Uhuh.

McD But he would be in the office in the morning. We would go over stuff and if there was anything that he had come up with the day before, he'd give me the dope, and I would arrange to have it shipped or pick it up and drive it down there.

Int. So, it is very much a day-by-day kind of operation.

McD Yeah.

Int. Now you mentioned that when Nolan Brothers was working on lock no. 7 that that was the big job for the company, that it was the only job in the house.

McD Well, we did have some other smaller jobs, bridges and stuff like that. We had one man that was taking care of that stuff. And we had some of them around the state, not too many, two or three, as I remember. But there like these bridges that you have around like overheads over the railroads, small rivers and such as that.

Int. Nothing like spanning the Mississippi or anything on that scale. Was the 30s a hard time? The early 30s, was that a hard time for the company?

McD Not especially. No. There was lots of work

on these locks, and there was quite abit of development in the Highway Departments, too, at that time.

Int. I see. So this wasn't a particularly lean time for the business?

McD No. No, there was a little bit more volume than ordinary for this territory.

Int. I see. I see. Did - when you were kind of thinking about your business options and the jobs you were going to bid on in the company, did you guys think about the locks and dams as a - it looks to me like you only did one lock. Is that right or did you do other contracts?

McD Well, we only built one of those locks on the river, because they were practically all under construction at the same time.

Int. I see. So there was very little -

McD There was no repeat work to amount to anything.

Int. I see.

McD I don't think any contractor on that river between here and St. Louis had two jobs of that same type on the Mississippi River.

Int. So that is why one sees contracting firms coming in as far as New York City and Chicago. That there - I mean it struck me I would have guessed that this would have been a midwest territory job. But there are contractors coming in from New York -

McD Well, there were outside contractors. We had one Spencer, White and Prentis, they were from New York. They built one of these, I think they built one of the dams.

Int. I think it is 5 that they built. [Note: it was lock no. 3.]

McD The locks were set along like this here. Well, take this for example. This would be your gatehouse over here where all the operating equipment was. Then they had guide walls that went down both ways, and that's where the boats came in.

Int. Uhuh.

McD And they had gates down there, and there was operating machine all in this gatehouse. Boats coming up the river, they would open these gates and let the water fill up and raise them up to the level of the upper side and just open the gate on the other side. Shut the one on the lower side and open the one on the other side and the boat would be on the upper river level. And reverse the process for the boats going down. The work that we had was all building these guide walls and installing the equipment to operate stuff.

Int. You know - . Excuse me let me turn this tape over.

Tape 1, Side 2

Int. Now, you mentioned that this was a big job financially for Nolan Brothers. That the contract was three, maybe four times some of the jobs that they ordinarily did. Was it a stretch for the company in terms of the skills or the technology of the job?

McD No. Concrete is concrete whether you had 10 yards or 3,000. But that type of work had never been done in this part of the country before.

Int. So -

McD Or since.

Int. Did you all know the subcontractors, were these the people that you chose to work with?

McD Well, we didn't have too many subcontractors on the job. The electrical work was subcontracted, but the main part of - there was quite a bit of excavation. The first thing, you know, you go in, you got to move all the dirt out and dig some holes and drive some piling and that kind of stuff. But in general, Nolans and, between Nolan and Industrial or Art Prendergast, but actually we had strangers doing most of the work. We didn't have our own men on the job, except the superintendents.

Int. So -

McD Like the men at the head of the work,Nolan and Prendergast, they knew how to handle a big job.

Int. I see.

McD That's one of the main things in this type of work, you have to know how to handle the crews and how to handle a job of any kind, regardless of what it is. It may be different, but the capacity and the amount of material that goes into the job usually determines the amount you bid on it. And some contractors are limited bonding wise and some wouldn't be able to afford to buy all the equipment they would need, to expand to that point. They might be able to do the work but we didn't have subcontractors in any amount.

Int. Ok. So it was mainly what, about a dozen people from your office running the job.

McD No, there were less than that. We did have the clerical help. We had one engineer, he was the assistant superintendent.

Int. Now, do you remember his name?

McD Doug Shoemaker.

Int. Ok.

McD. He's dead.

Int. Did he live - did all these people live down at the lock while the job was going on, or did they -

McD Yeah. They stayed right there on the job. And this Prendergast is dead.

Int. Now he lived down there, too, while the job was going on?

McD Yes. He lived down there along the river there. Of course, it was kind of a vacation for him. He had a summer cottage on the river.

Int. Oh, really.

McD People pay good money for that around Minnesota here, for places like that.

Int. Down around Winona or - ?

McD Just above Dresbach. That's this side of -

Int. Perfect for him.

McD Oh, yeah. But I don't know whether, he wasn't the type that wanted to be on vacation all the time either. If he wasn't there, he had plenty [indecipherable]. The thing with the Army engineers, we found in other work that we did with them, the men they put in charge of these projects are pushing for promotions. And they are not going to be interested in [whether] the contractor makes any money or not.

Int. Now, how much money did you have to make on a job that size to make money?

McD Well, average 10 - 15% is about all you could put on it for a profit on a job like that and get it. The -

Int. Now, did you expect to make more profit on other jobs?

McD Well, it was about average.

Int. Ok.

McD You made 10% on a job, public works job of any kind. It was primarily the basis you worked on starting out. But in bidding on work, there was a whole lot of study of your competition that you had to take into consideration. How much competition you would have on a job like that would be qualified to bid on it and how much more could the ones that were qualified add on? They might now bid as tough as they would if they were looking for work.

Int. I see. So it is how to interpret your own low bid chances. Is that -

McD Size up your competition.

Int. Now why -

McD That's not necessarily 100% correct, but that

was their basis of the work load and starting out.

Int. Now, let me ask about. You said that one of the problems from your perspective was that some of the men who were in charge of these projects on the Corps side were looking for promotions and didn't care about the contractors' rate of profit.

McD Well, that is a wide range of statements.

Int. Yeah, I'm curious - what made you say that? And, can you tell me more about that? I mean -

McD Well, as an example, and my problem with them down there was having this type of work[er] that had no experience, trying to do skilled work.

Int. So what you mean is that the problem was having -

McD Like a carpenter.

Int. That you didn't have the crew that could do the work that you wanted done?

McD No. They weren't carpenters at all. As I say, they trained them, and they got to be fairly good by the time we were through with the job. But in working three 8-hour shifts, they had instances where they would go off of one shift and they had a set of engineers that worked the same shift, the inspectors that approved the building of the forms. The next crew come on ordered them condemned and they make them, do them over again.

Int. Oh dear.

McD And they let them get away with it. My first requirement for a job like that one should have one of the best attorneys you can find anyplace. You need them. Just to challenge the interpretation of the specifications. These specifications are laws; it says you shall build according to certain types of material and certain types of work. And, when I am talking about these forms, you had to have forms that would meet the requirements that would be standard to

hold that concrete when you poured it, you know. And that's where these guys were giving our men so much trouble was one crew would approve and the other one would come back and want things all changed around again.

Int. Now so you were working round the clock on this job? Both the contractor and the Corps people?

McD Yeah.

Int. How did that work in terms of the Works Progress Administration people? I understood that they were restricted to 30-hour weeks.

McD Not in those days.

Int. Oh, really.

McD No restrictions at all. No, this 30-hour week or something come up several years later.

Int. Oh, I see. So you were working 8-hour shifts, and you were working people 5 days a week, or 6 or 7 or - ?

McD Six.

Int. Six.

McD They didn't work Sundays, but they did work full-day Saturdays.

Int. I see.

McD No. The only problems that you had in regard to overtime was with the unions. They had a fixed amount for an 8-hour day, and if they worked them over, that's the reason they worked 3 shifts. If you worked union men over 8-hours, you had to pay them, at that time it was, time and a half. A lot of jobs since that, you paid double time, especially iron workers, steel erectors. Like this IDS Building and Government Center here. Those fellows that put up that steel, they get double time if they work more than 8-hours a day, regardless if they didn't work the rest of the week. If they worked over 8-hours, they got double time in one day. So that -

But I learned alot from - . We had one contractor from St. Louis. I can't remember that name. But their engineer came up here when we went into this lawsuit. And he run around - . There were 11 contractors involved in it originally. He went around to all these contractors, took all their costs and assembled that and laid out the foundation for the claim. And this Prendergast, of course, he knew and was associated with Nolans on that one job. He was back in business for himself. The only one available was this engineer [Doug Shoemaker], and he was back working for the NP Railroad [Northern Pacific] and that's how I fell into the damn job. I had kept track of the costs and everything on it.

Int. Now -

McD I was the only one that they had that could put on there.

Int. Now this claim was filed on lock no. 7 only, or on several jobs up and down the 9-foot channel?

McD The idea was they were going to file it on several. Not all the contractors, but there were several of the other jobs. They all had the same problem though, with the lack of skilled help but I don't know whether some of the others were. This Hallet [E.W. Hallet Co.], I noticed they are mentioned in there. They built one of these. They were paving contractor from up here at someplace up around Virginia, or up in there someplace.

Int. Now what happened with this lawsuit?

McD We got into court; we spent three weeks in court.

Int. Was this in '35 or - ?

McD That was in '36. It took that long to work up the claim. The Justice Department sent an auditor up here. They went over our books and audited items that was charged to that job. Questioned it and I had to explain why and wherefore, what it was for and why it was necessary. And then when they went into this claim, they got into court, they had a Federal Judge from West Virginia

sitting on the court. Contractors hired an attorney from Washington, but there was another contractor from New York here and this Spencer, White and Prentiss, they were the ones personally that worked with us in working up this claim. We worked up our figures and then they would come in and go over them and then they would tell us what they wanted to change to meld in with the other claims that they were working on. But World War II came along right after our claim was put through, so that ended that; we never heard anymore about that.

Int. Oh, really? So the whole thing went into court.

McD We were the only - there was one other claim ahead of us. Let's see, I think it was that outfit over in St. Paul. But they got their claim in. But they never did get into court with the cleared claim. Maybe they did start, but when the war came on, they just shut the whole works down then.

Int. I see. I see.

McD None of us ever got any money out of the government. What they contended in going into this claim, that they weren't allowed to hire the class of labor that they, that is, mechanical but mostly all or some common labor required, but mostly all mechanical types of labor. We couldn't bring those men in, skilled men, and we had to do this job which cost much more money with that type of labor than we had figured with just picking them up here and there. We could have got lots of men from the Twin Cities here, good men. Because we had done enough work around the state long enough, we knew who they were but they wouldn't let us take them down there. So, that is the thing that always griped me with them but they were too busy trying to get the job done.

But I worked with another contractor here. They were a big outfit here, Groves [Groves, Lundin and Cox Company of Minneapolis]. We bid some stuff, sub business or concrete work. They had to do their own concrete work, and one of their men told me, he said, don't ever have any conversation with the

Army engineers or ask them a question. Write them a letter. He says they will deny everything they said if you ever have an argument with them. It stopped some of them, some places. My experience on the job in Oklahoma - well, you can't pour concrete today. It was at freezing level and by noon you have 80 degree weather down there. Ok, give me a letter. But I didn't get the letter. But those are the things you have to learn as you go along. And generally, you know, the crews and the Army engineers and everybody in general, they're pretty good guys to work with, easy to get along with.

Int. So there wasn't alot of friction on the job or anything like that?

McD No, no, no, not even with these project engineers. You got along with them alright, but they were adamant when they decided. Well, like this fellow said, I don't want you to pour concrete today. He said it is at freezing now; I said Bill, you know damn well it will be 80 degrees here at noon. Well, he said, I don't want you to pour. Well, I said, what do you think we got all this stuff ready for? Who's going to pay for that? He didn't care. I don't want you to pour. Well, the boss himself wasn't there at the time; we'd gotten another similar job out in Texas, and he had gone over there for awhile. If he was there, I don't know whether he could have done anything with him or not. Of course, I was just a hired man; I couldn't tell the engineer to go jump in the lake. Felt like it lots of times.

But those were some of the things that you're under. Of course, we - State Highway Departments, their average engineers were pretty well experienced. But every once in awhile, they'd put a guy out on a state highway job, right out of school, and then they would get some ideas at times. But they weren't hard to handle, cause they didn't know enough about it.

Int. It looks to me like alot of the Corps engineers, the younger inspections and things were very young.

McD Yeah. Although those fellows weren't too bad down there on the lock, those younger

fellows. There was this one engineer, he was messing into things that was none of his business at times.

Int. Who was that? Do you remember who that person was or what his job was or - ?

McD He was known as Project Engineer. Jack Harns. No, I'll never forget him as long as I live.

Int. Now, I notice - I mean - you know, I can understand the difficulty that you are telling me about in working with essentially labor that is getting trained on the job to do much of the work in the locks and dams. Although it seems to me - they [the structures] seem to have held up very well. I mean, there seem to have been no major structural problems with the lock and dam system.

McD Well, the men that were building them knew what to do. They had to see to it; it just took them longer; they were slower. They weren't the type that you could say, well, now here, this is what you're working on today. You go ahead, you work all day and the guy knew what he was supposed to do and you didn't have to look at him again, even watch him, he knew what to do. These guys, you had to stay right with them all the time, show them everything. Some didn't even know how to handle a hammer.

Int. Now, did you end up hiring any guys out of this project who went onto become professional construction people?

McD Did I what?

Int. Did any of the men who trained on these jobs end up becoming professional construction workers?

McD I don't know whether they did or not. They were all locals down there along the river.

Int. So, Nolan Brothers didn't hire a bunch of guys out of this or make them part of the permanent work crews.

McD We didn't bring a man out of there.

Int. Ok

McD That we used on other jobs.

Int. I see.

McD We had too many men around the Twin Cities. Whatever amount of work you had, you would always call the union shop and get carpenters or crane operators. There were the chief mechanics in concrete work were mostly, the carpenters that built the forms.

Int. Now, down on the river job, it sounds like most of the people who were, the local people, were they union qualified?

McD Union?

Int. Yeah, were they union people?

McD No, they were just, some of them, I don't think - . Well, there were some of them that were what is termed river rats. They never did anything but live on the river and fish. All their life. But it was close at hand and it was money in their pocket for them and they didn't have any problem getting a job cause they needed help. If they were willing to start even, most of them would have stayed, I suppose, as long as they didn't have to work too hard. But you couldn't afford it, to keep that kind of help around in those days, you know.

Int. Did you all think of this project as a, oh, a kind of a necessary improvement in the Mississippi River or essentially a Depression project or - ?

McD It was a Depression project, yes. That was one of Roosevelt's brainstorms.

Int. Well, apparently it had been planning for many years before it happened.

McD Well, yeah, they had, but I don't think they'd have ever gone through with it if it hadn't been for the economic conditions of the country at the time. They might have, I don't know. They did this on the Ohio River before they came up in here to the Mississippi River.

McD — Are you out there? [Aside to relatives in room]

Niece — We are getting ready to go Uncle Joe.

McD — Want to meet this lady?

[Machine off]

Int. — It looked to me in looking at the Corps, the construction history of lock no. 7 that was written by the Corps staff, the project engineers, that it was kind of - it looked like it might have been kind of a difficult project in some ways. There seemed to have been lousy weather in '33, '34 and I wondered if you remembered that?

McD — Oh, we went through the normal type of weather.

Int. — Ok. So you didn't, it didn't -

McD — That wasn't any problem. They couldn't work when it rained, but they did work through the winter there.

Int. — Ok.

McD — They had developed winter concrete to a point where they knew how to handle it and heat it and keep it from freezing during the - .

[Niece/Wife — I'm going now, Dad. I've got my key, Uncle Joe.]

Int. — Now, I wondered about this. I noticed that and I was surprised. I thought that it was not a good idea to work concrete in the winter, but, or that it was so expensive that you would not ordinarily want to do it.

McD — Well, it took awhile to develop a system of doing it. When I first got into this business, that was - . Actually, I got into this end of the business, this roadbuilding, and this type of work. I had worked as a plumber and electrician before that in California, over in St. Paul. The old general methods of - , you had to build some kind of protection around to build these forms for a bridge or whatever. If you had too big an area that you couldn't heat, you couldn't do

it. You had to take it in areas where you could keep the heat concentrated by building a framework around it. And in some cases, you could use canvas to cover a good deal of it and hold the heat inside. And then in the beginning, we had what they called salamanders. You put this coke just like a, practically, like a garbage can except that they had a grate down in the bottom of them where you put the coke in, and that threw off quite abit of heat. And they were not dangerous from fire. It was, the can was, oh, about a size, maybe, a little taller than a garbage can, so you could set it inside of a structure that you had closed in. And then this coke wouldn't throw enough sparks or anything to be a fire hazard.

Int. I see.

McD But then, in later years, they developed systems where they heated the materials before it was mixed, even if you had to have steam rollers on the job. Build a platform and store your material in the sand and the gravel. And we put pipes along on the floor of that and then stacked it on there. All these pipes and had a bladder hooked up so steam would never come up through and once that material is heated and then the internal process of cement generates heat in itself, so that you would have to keep it covered after the concrete was poured and keep it up to a temperature of about 60-70 degrees. So that if you got a sudden snap or change in weather or something, you wouldn't get caught short. You had to be prepared, maintain that heat inside. In other words, just below freezing wasn't enough. But, concrete would not be damaged to much extent, even though it did freeze in some cases.

Int. I see. So, by the time you all were working on the lock no. 7 project, for people who were working on your scale, wintertime concrete was -

McD We had developed a method of protecting it at that time so that we could go right along. And with a job like that, the bigger the bulk of concrete you had, the integration process, the more heat that developed by itself.

Int. I see. Ok. Excuse me

McD The surface was the main thing. Keep the surface warm.

Int. Just let me [change tape]

Tape 2, Side 1

[Note: informant begins talking about railroad as tape changed.]

Int. Well, they still have their tracks on either side of the Mississippi River.

McD - Ohio Rivers and several other rivers And through all of this movement of coal and grain and stuff and between here and St. Louis, they haul all of this stuff.

Int. Do you think it was the locks and dams that hurt the railroads, or do you think it was the automobile?

McD No. It was the locks and dams that made it possible for these automobile outfits to put these trucks on the roads. They took the business away from the railroads, because the state built the roads for these people. And of course, it cost some money, they screamed their heads off because they had to pay so much license fees and everything else. But there isn't any outfit operating on these roads right now that could go out and build their own roads. And that was what the railroads had already done. They had their own trackage and everything.

Int. But, they [the railroads] got big subsidies in the 19th century, though,to get their -

McD Well, of course, it was a subsidy to begin with. Jim Hill was a visionary in this part of the country, building these railroads. He went out and got the government to give grants of land to all of these people, and let them homestead it. So it developed not only farming but business in general. And built up these farms that we have through the west, which never would have existed if the rail-roads hadn't been built through there. There are places in Montana there, you could drive for half a day and not see a jack rabbit, between, well from the eastern line of Montana

until you get in the main cities. Glendive is on the border there, but the main cities in Montana are remote. Helena and Butte, they are all way within the central part of the state and pretty much to the western part of it. There is one huge prairie there, from the Dakota line clear into Lewiston, Montana that never had anything on it, but cattle on there. But they went in there and broke that up for farmland in dry years, which they have plenty of out there. That land all went to pot as far as range land was concerned. The grass never really would grow back again. Which I call government interference and stuff that people don't know what they are doing or what it is all about to begin with.

Int. Sometimes I think it is very hard -

McD Interfering and making rules and laws and all. But it's a foregone conclusion that anybody that's familiar at all or ever paid any attention to the traffic on these highways, they're screaming their heads off around here now trying to get money enough to maintain these roads. There isn't enough money in the gas tax to build new roads and maintain the old roads.

Int. Do you think that a new combination of rail traffic and barge traffic would help or - ?

McD Well, of course, barge traffic is confined to the river areas. But as an example, between, river traffic don't help any between here and Chicago. But between here and New Orleans, all of that come out of these that ordinarily the railroads hauled all that stuff. Well, it took all of that business away from them and that affected them throughout the general all over the country when they started hauling all this stuff by truck. And, of course, highways have been built for automobile traffic but now they are wearing them up. Just batting the hell out of them, to put it bluntly, is what they are doing. You pick up the paper, they are always screaming here in Minnesota about ways to raise money to repair these roads. They have raised the gas tax 3 cents here, but that is only a slap in the bucket for the amount of stuff they have to do now. Of course, all

the main part of the roads have been built but the trouble is, they are wearing out. Right around here, you listen to the radio in the morning, this town is, about two-thirds of the main highways are shut off for repairs.

Int. There are problems about that.

McD All over the main trunk highways that go through the town.

Int. You know, you were just talking about Montana and you know, the cities that you learned when you were working out in that part of the country, and I wondered if building highways and working on these big construction. I've met several people your age who worked on that kind of thing when they were in their teens and twenties and made it a profession for themselves. Was construction and building these new highways and building these new big structures, was that kind of a glamorous thing to do when you were a young man?

McD No. No. It was just a job, work.

Int. Oh, yeah?

McD And they instituted these programs and built these highways all around the country, which was a good thing. The highways in themselves, I never had any quarrel with them, and they built some good highways all over. We did work in Montana, North and South Dakota.

Most of our work outside of Minnesota here on road building when I was with Nolans was in Montana. We built quite abit of that road system in Montana all over the state in various sections. They let them in contracts maybe 10 - 12 miles grading, pave the whole thing and maybe some bridges here. And sometimes we built - When I was with Nolans, we built some bridges in Montana and then this Industrial outfit. We built practically all these bridges around town here, the new Washington Avenue, Dartmouth and one up north there Fridley, across the Mississippi River. And also built some of these overheads too cver the railroads around here. But at the same time, they were doing work all over the country. You have to go where

the work is. And you have a certain class of men that follow you. As long as you can keep crews like that, you know where you are at. You know, if you don't have these guys with you when you get there you can do the job, you know.

Int. Did most people besides the engineers kind of learn on the job the way that you did?

McD No, except on this lock job. The only place where they had to teach them, cause they wouldn't let us take in skilled men from other areas.

But for the most part, when I got in here, there was always reasonably ample supply of carpenters. And of course, there was always the other type of building around the [Twin] Cities. Everyone that wasn't working on that kind of work with these road contractors, they could go in and build houses and these buildings, like they are putting up downtown here now.

Int. I guess I meant a slightly different thing. I mean you were telling me that you went through high school and then started working.

McD Yeah.

Int. And, kind of, by the time you'd done some work in highways and been out on the west coast and things like that, that you came back here and you were doing skilled work, which I thought you had learned on the job rather than becoming - . You didn't go to school did you, to learn vocational skills or to learn bidding?

McD No. I learned from one end of it. That was the management end of it. Everything got to go through the main office.

Int. Oh, I see.

McD And I started out, I was just keeping books for this guy, but he was like all contractors, he never paid any attention to his bills or anything else. So that I had the responsibility of seeing to it that he kept his bills paid and also to keep them registered and - . Corporations have to be registered in every state you are in, state licenses and

all of that stuff. Well, when these guys get out on a job, they forget all about that.

Int. Yeah.

McD And then they wake up some day with a jolt and they are told - they have to get it done or else. But - .

Int. Now, was it your high school training and your accounting courses and things like that - .

McD Well, I had accounting, of course, enough in the business end, the management end of it, the bookkeeping end of it. But the management end of it, we had to learn by experience.

Int. Yeah.

McD Things as you go along, you learn different things and you have to use - I got tired of just keeping books. I used to go out with this fellow I was working with, and I decided I might as well learn how to read plans. It's much easier to do that if you get out on a job and see the stuff actually as the plan outlines and see it being built up, but I didn't stay on the job.

Int. I see. Of course, when you were young, not everybody graduated from high school, did they, so - ?

McD No, most of our state engineers over here when I first went to work were, well, they were high school graduates most of them, but we didn't have too many university engineers except the upper executives of the highway department. These fellows out on the job, they could go out on the job, get into a crew and learn how to do all this survey work, transit and level and all that, if they had a normal rate of intelligence and a high school - . Well, it wasn't necessary even high school, either, if they were good at figures. You can learn most of what figures in the elementary schools, everything you need to know about it. Learn how to apply it to the different areas once you get out, but figures are figures. If you know how to count from 1 to 10 and how to put them together.

Int. Yeah.

McD It's amazing, nine figures and a zero and our national debt now is over a trillion.

Int. Now, when you were working, did you notice alot of change in engineering as a profession and in contracting as a business as people got more - ?

McD Not so much as it went along, but I, in later years, after I left Nolans and got in with this other outfit, they did the same type of work but they went in more for the steel erection. They put up the steel on this IDS Building and the Hennepin County Center down there on the, put up the steel on the original ballpark out here.

Int. Oh, Nicollet Park?

McD The one out here.

Int. Oh, the Metro.

McD Bloomington, Bloomington.

Int. Oh, I see.

McD And also that stadium, or the one they have there now, the, what do they call it?

Int. Oh, the Metrodome?

McD Is that where they play the hockey?

Int. Oh, it's out, that also is out in Bloomington, isn't it?

McD My mind don't - . They have a definite name for that athletic center. They play hockey there and they have concerts in there. It's a sizeable building. It was right on, not far from the old metrodome.

Int. Now, are those projects you worked on, or did those happen after you retired?

McD No, I was with - . Well, this IDS Building and Hennepin County Center, I had retired from the other outfit. And this fellow who is doing all this work now, he had worked with our people. And after I retired, he only had one girl in the office, and he was building up his busi-

ness pretty fast. Called me one day and he said, are you tired of loafing around? I said no. Well, he said, I could use somebody. But I only worked for him parttime, and I was with him when he put up that IDS Building and the Hennepin County Center.

Int. Oh, so you mean you retired in 1948, but you actually kind of kept working parttime for years?

McD No, I retired in 1968.

Int. Oh, ok.

McD And then I worked for him for about, I guess, for about six years over there.

Int. I see.

McD Cause I had worked with him with the other outfit.

Int. So, you worked for Nolan Brothers in the 30s and the 40s?

McD Yep.

Int. And then you went to another construction firm.

McD This Industrial Construction Company.

Int. Which was Mr. Prendergast's firm. And then you retired, and then you went with a third firm parttime.

McD Well, this third job I had with this guy had been with this outfit of Prendergasts.

Int. I see.

McD They were a separate steel erection firm, but they used to sub this work, the steel work from Nolans and sometimes quite abit of it from Industrial.

Int. So is that why, what I have been trying to put together in my head as you and I have been talking is you've been telling me about Nolan Brothers expertise in concrete. This report mentions their expertise in steel erection. That was actually Prendergast's expertise?

McD Well, there was both steel and concrete, in ample amount of each commodity in those locks.

Int. So, Prendergast came in as a steel man and Nolan Brothers were the concrete people?

McD No, my guys had done the same kind of work as Nolans were doing, that's how they got together.

Int. I see. Same combination.

McD They just put the two together and then that gave them the power to bid on this job in the first place. Neither one of them could bid it alone, they didn't have the bonding capacity to begin with.

Int. I see. Now, you talked some about the labor situation at lock no. 7 and you told me about winter concrete as something that wasn't special, but had become kind of routine by the time. Were there, I mean things like I picked out of this report that a dredge sank and that there seemed to be some trouble with the dredge, water freezing inside the dredge hoses at one point. Was this all standard stuff. I mean was that just the kind of thing you would expect?

McD Well, dredging consisting of keeping - . In the first place, all of these jobs, they had to be cofferdammed and pumped dry to work in there. Both on the main bar of the dam and the lock approaches, you had to go in and drive sheet piling. Make a pen out of it, really, is about all it amounted to. Then you had to have the capacity of pumping to keep that thing dry all the time while you tried to work on it. That's where the dredging part of it came in. There was no dredging as far as the river traffic was concerned in those days. And this winter concrete hadn't been developed to too much of an extent at that time like it had been in later years.

Int. Now, I noticed that a new type of concrete form seemed to have been developed for the lock walls, but it didn't say why. I wondered if you remembered anything about that?

McD Well, there's been alot of changes in the type of forms they put up, and there's been quite abit of what's called pre-cast concrete developed in the later years. And also, the steel work has changed to some extent. It's still steel, and they have put it together, bolt it together. But there was a time that all that stuff was put together with rivets.

Int. Uhuh.

McD As a matter of fact, when that Foshay Tower was built, this fellow I was working for, we had an office right across the street there, right back of where the church, St. Olaf Church is, and those guys were there all day long. There were five riveting crews there, batting those rivets all day long. Even the ink bottles were bouncing around on the desk. I - .

There were times when it got so noisy, I used to go over to the house where I lived and work over there, and then go back and work at night.

Int. I can imagine.

McD But now, in all that type of work, they bolt it and tighten it up with air equipment. Tighten the bolts.

Int. So you don't have that rat-ta-tat.

McD All that racket. But it drove everybody nuts downtown on that Foshay Tower building. That was the tallest building in town at that time. There weren't too many of these type of buildings like the IDS Building with that height or any approach to it. Average downtown building was 4 or 5 stories for a good many years.

Int. Right. Right. Now, when you were working on the 9-foot channel project, did you see that project, I mean, were you guys thinking at the same time of Bonneville Dam and other really big projects that were going on with public works money. Did you see yourselves in that tradition, or was it, I mean you were just building a lock?

McD Just building a lock. Those people on, like that Bonneville Dam and those dams

in the west. Those people are multi-millionaires. Contractors who do that kind of work.

Int. Much different scale from the kind of thing that -

McD Financial.

Int. Now, I know that -

McD These people I worked for could have developed a crew, you know, but they would need more capacity in the management end of it, too, to do that kind of work. You have to have people that know their business, you know, in several different places on jobs like those big jobs, out in the west there. These people, last people I worked for before they folded up - . Well, the boss died, and the two sons were in the same position, they didn't have the financial connections even though they were the sons. The bankers don't loan you the money, because you are somebody's son. But they replaced the cables on the Golden Gate Bridge.

Int. Oh, my goodness.

McD Which is no small project in itself. But there you have everything in place and you don't have to - the biggest problem is building bridges is the elements of the weather and the rivers. I never was on a job that I can remember that we didn't have a flood as soon as we got our cofferdam dug out.

Int. Was that true at 7 too, at lock no. 7?

McD Well, lock no. 7 was a huge yard. It was about 4 acres in that whole thing. But, no, they had pumps, several pumps, they had pumps as high as 28 they had to keep going all the time. Of course they could channel alot of that water off into areas after they built the cofferdam. They could channel into areas where it could pool up and they could pump it out of there and then keep it down in the area where they were working.

Int. So, it wasn't pushing right at the dam it was - .

McD Yeah.

Int. Ok. Now, you mentioned, this was the first Corps of Engineers job that Nolan Brothers had taken on, and you had some dissatisfaction. It was difficult in some respects, especially the labor part of this job. You seem, the company seems to have taken other Corps contracts, so I - .

McD Oh, we built airbases in New Mexico during the war which was for the Army Engineers. But we didn't have the same problems with them, although we had the same type. You run into a certain element in all these government jobs that you have, an outlaw or two in the management end of it. But they built two, three, four airbases in New Mexico and Texas during the war. Well, I only got in on one of them. I had a job up here and built this bridge across the Mississippi River, near River Falls. And I didn't get down there until, I was down there almost a year after the - 3 years down there. But, in general, those engineers were pretty good guys. Alot of them, they had hired civilian engineers, and they are alot easier to talk to.

Int. Well, alot of the people who worked on the 9-foot channel project were civilian engineers as far as I can tell.

McD Yeah. There were quite a few of them.

Int. There were very few actual military people attached to that office.

McD Even in the engineers office over here in St. Paul headquarters, they had one fellow in there, he was civilian engineer. And whenever we got into trouble with the lock, we would talk to him.

Int. Now, who was that?

McD Oh, golly, I forget what his name was. But I remember one time when something came up, and this engineer on the project wasn't going to let us do it the way we wanted to. And we submitted a plan, and he rejected it. And they sent it into the office over here. And this guy looked at it and he seemed to think it was alright. And he was going to send it back

down again. And I said, well if you send it down there, I said Harns is going to reject it again. Oh, he said, to hell with Harns, he said. If you send it back here, I'll approve it myself. So there was understanding between the civilians and the technicality attitude of the Army engineers. Of course, the Army engineers had never had to get out and make a living at this stuff. They were always telling some body else what to do, which was easy. As long as they had the government behind them and a few experienced enginers in charge of things.

Int. Now, when you compare say, doing contracts with the Corps with doing State Highway Department or other public works is, that the same general system, that specialized contractors are working with superintendents and - ? As I understand the whole 9-foot channel project, the Corps staff was working as inspectors and as supervisory personnel for the specifications of the contract and virtually all the work was being done by the contractors and their field offices. Is that the same way you work with the State Highway Department in building roads?

McD Well, the Highway Department, I always found, we ran into a few obstinate birds in the Highway Department. But there were very few compared to - , and for the most part, they were local fellows from around here.

Int. So, it made a difference that so many of the Corps people might have been from somewhere else?

McD Oh yeah, you didn't know who they were, you never saw them before and never saw them again afterwards. They were sent in from outside and they hadn't done that kind of work in this area and never have since. They have these offices around. They have control of all streams in the country. Anything almost, have to get a permit from the Army Engineers to fish in a river. But if they don't want to do any changes or any channel changes in rivers or build bridges across the river, the Army Engineers even though the state pays for the bridges, they have to get a permit and approval from the Army Engineers. Mostly routine stuff, but they do have control of the situation, and they can

tell you what you can do, and what you can't do about flowing waters of any kind.

Int. Now, I've asked you alot of questions and I just wondered if there were things that I had called to mind or if there was anything else that you, excuse me. [Tape flipped]

Tape 2 Side 1

McD If you go into the details of the construction work and that's something that wouldn't be of any importance anyhow, because I never did the actual work myself.

Int. Uhuh.

McD But - .

Int. Well, if there anything you would like to add, or anything that I have called to mind.

McD Well, I don't know it's - . These kind of jobs, regardless of size, are routine as far as a contractor is concerned. And the biggest problem is capacity to handle it financially and experience in handling crews above normal size and be able to direct the activities of alot of men. In contrast to where, well, on our own paving contracts, they have about so many men and they don't have large crews. They don't have any water problems in working on a built road, no hazards of any kind. The bridge end of it, well, the grading part of it is, like I say about this job in Winona, where that high bank was, that was a hazardous job. Blasting that stuff out and moving it. You never know how a dynamite blast on one of those jobs is, just what it is going to do. It may move alot of stuff that they didn't anticipate. Might catch, cover up some equipment or something. But in general, most of these old time, what they call powder monkeys, were pretty accurate on that stuff. They could tell you at the time they placed the dynamite in the blasting job, just about how much dirt they were going to loosen up before they set it off.

But, I don't know whether the Army engineers are building any of these locks and dams anyplace anymore.

Int. There has been some talk of deepening some of the locks, but I, and there was one at Alton that was put in with a deeper draft not too many years ago, but that as far as I know is the only, certainly it is the only work that has been done - .

McD Well, I have alot of trouble on this, I guess, they have the same problem on the Ohio River, too, is the shifting. The current shifting the sand to keep the channels open deep enough for these boats and barges to go through. Barges go along alright, but these boats that they tow the barges with, they have to have a certain depth for water power for their drive wheels, so much.

Int. Ok, well, let me turn this off [off].

In looking at the no. 7 construction history, Mr. McDonald is pointing out photo no. 122 from October 17, 1934 as a good example of both the forms for the guide walls and also the cranes that he describes in his interview. As illustrating some of what he has been talking about this morning. It's good of the cofferdam, too, back there. That is what I see back there.

McD Now, there is another, that is a derrick, this thing here.

Int. Ok.

McD They are pouring concrete there. See that bucket there.

Int. Ok.

McD You pick that stuff up at the mixer with the concrete bucket swinging around and dump it right into the forms.

Int. Ok. And again, the photograph we are talking about right now is photograph 131, which was made on October 19, 1934, again in the no. 7 construction history of a crane. This is a stationary crane?

McD No, that is a derrick.

Int. A, a derrick, sorry. Moving a concrete

bucket over into the forms, into the forms for the concrete.

Einer Christenson
interview notes/schedule
June 1988

I. Family/biographical

* where born, when

* family background, parents' occupations

* brothers, sisters?, their training and education

* any Corps experience in family besides self?

II. Engineering

* how decied upon engineering as a career?

* important models, teachers, books?

* sense of choice, other alternatives?

* training, mentors?

* your expertise, specialty as engineer?

III. How came to Corps of Engineers?

* other employment beforehand?

* Depression a factor in decision-making?

* friends or acquaintances in federal employment?

IV. How get involved in 9-foot channel project?

* any prior knowledge, hearsay in professional journals, engineering schools?

* Did people compete to get involved? Other equally attractive projects for civilian engineers in St. Paul District?

V. Design work and 20th century engineering practices

* Design centralized somehwere within Corps? If so, where? how communicated to St. Paul District?

* If substantially St. Paul, who were design people, what was local process?

* Models for design - Ohio River, European engineering, 1933, Century of Progress in Chicago important? Other?

* Were other large public works of the period - TVA, Bonneville Dam - in the minds of Corps draftsmen, engineers, etc?

* Or was 9-foot channel seen as specific localized, project?

* New and innovative? Or fairly well-known set of engineering problems? Ex. dam gates on bigger scale than previous applications, any worry? Exhilaration?

VI. PWA aspects

* Looks like PWA required considerable administration in govt. office, was that the case?

* Principle tasks liaison PWA, who performed, how affect your own duties and responsibilities

* Aware of hiring halls etc? Can you locate for Alma, no. 4?

* Your direct knowledge of PWA crews - individuals hired, mainly local people, farther away?

* Lots of same people throughout 9-foot construction, or noticeably high turnover?

* Wages $1.20 to $.50 - good for the time? median, minimum? Workers able to support families?

* Were there variations in adequacy of work - skills, productivity? Examples?

* Were PWA, non-PWA projects within system different in important ways?

VII. Govt. office

* Your experience #2 man at No. 3 and No. 4 essentially same job, or major differences?

* Thumbnail description, your job

* Rate of pay? Good job at time? Paycut in Depression?

* Mr. Fairchild, yourself, others in residence at work sites? How arranged?

* Day in, day out schedule?

* Recreation, time off?

* Fairchild appears to be controversial figure brought in specially for this job. Was that the case?

* What was Fairchild like to work with? Hints of difficulty bet. official admin. in Cities, field offices - chain of command - would you agree, disagree? Examples, memories?

* Corps people you esp. remember on work crews, in St. Paul? Hibbert Hill, Anderly, colonels and so on.?

* Lots of testing: pile techniques, cement work, foundation. True for each lock & dam? All Corps projects or 9-ft. channel special in this respect?

* Did you participate directly in test design/conduct? If so, could you describe one to me

* Your article "Dam Foundation Compacted by Pile Driving" in Civil Engineering Feb. 1939

  Only a handful published on 9-foot channel?

* Construction reports absolutely voluminous, recipe for process. Corps procedure for all engineering project?

VIII. Lock & dam no. 3 Red Wing/Welch

* not PWA

* testing of pile drive and load

* cement

  - eleborate analysis in body construction report

  - lots of patching/inexperienced concrete workers - surprised since 1937-38, late in proect

  - Ftn. City test of freeze and thaw

* artificially placed foundation material-softness, silt of river bottom

* Type Z sheet piling dam abutment walls, early use of material in Corps project and generally

IX. Lock & dam no. 4, Alma

* described as esp. difficult stretch of river, would you agree, why?

* accidents: collapse of derrick, Tainter gate
3 facilities
washout spring 1935

* difficulty with pile-driving: hard-pan and freezing, splintery piles

* contractors Ouilmette (lock) and United Construction (dam) nearly same, why not bid under same name?

* more pile-driving tests

X. Finale

* As I read each site seemed to have own characteristics, did it feel that way at time?

* Comparisons among contractors?
Interesting or important differences in style, working relationships with Corps? Memorable personalities?

* Hard feelings about bids, hard times for contractors?

* Claims arising out of construction?

* Get to know many people in Alma and other river towns?
Any sense of how 9-ft. project viewed: positive, negative mixed?

* Any dealings with railroads, Izaak Walton League, Fish and Wildlife refuge people? Sense of their views, cooperativeness

* Continuing work with 9-ft. channel acquaintances in Corps career?

* Any observations you'd want to make?

* Consult #3 & #4 photos as appropriate

Joseph MacDonald/Nolan Bros. lock #7
interview schedule/notes
June 1988

I. Family background and training (engineering? other?)

II. Nolan Brothers

* How got to Nolan Brothers

  - his experience with firm

  - description of firm's projects and usual budgets

* His role in lock #7 project

* Interface with Corps personnel, personal experience federal contracts

* Visits to river?

III. Check for elements of lock no. 7 construction history

* 3 month search for construction bond on project

* How subcontractors chosen

* Any personal knowledge/working relationships subcontractors

* Weather delays, winter 1933-34

* Foundations testing upper guidewall

* Trouble with pumps May 1934

* Anxiety over coffer dam January 1934

* Dredge opns, Jan - Mar 1934 (water freezing inside hoses)

* Sinking of dredge March 1934

* Trouble with cam shaft of steam hammers spring 1934

* New type concrete form developed for lock walls, does he remember anything about that?

* Cement change, cost $ for contractor?

* Nov. 1934, foundations testing by Corps

* "Slowness of contractor to remove work trestle"

* Need to heat concrete work, common situation or unusual?

* Nolan Bros. "considerable experience in steel erection"

* 60 days worth extensions, cost Nolan? if so, how?

* Nolan key men (see list p. 44) who his boss? Describe construction roles, personalities of those remembered

* Scaling of concrete (tops of lock walls, spring 1935, attributed to ice melting winter 1934-35) any knowledge, comments?

* Labor conditions

  - Workers' payrolls, estimates any part of his job?

  - Liaison with PWA at all?

  - Corps report describes skilled workers as "below normal for efficiency" would he agree/disagree

    What impact labor efficiency on Nolan contract?

IV. Financial

* Bid at 1.3 million

* Contract at 1.4 million

* Finished job at 1.5

  How did that work from contractors point of view?

* 60 days worth extensions on project. Is that "normal" range? Impact, if any, on Nolan Bros., budgets, bid

* Origin and disposition of claims mentioned in our earlier conversation? How evolved, his role, how adjudicated

* Did Nolan bid on dam #7, other 9-foot projects?

* How saw locks & dams: necessary improvement, Depression project, some other way?

* Subsequent career with Nolan Bros. others in construction

* Consult Corps history photos as appropriate

Appendix B

Project Correspondence

Scope of Work

C-V

HISTORY AFIELD

June 17, 1988

Joseph McDonald
3625 Pillsbury Avenue So.
Minneapolis, MN 55409

Dear Mr. McDonald:

Thanks again for giving me so much of your time when I came over on June 10th to ask about your experiences on the 9-foot channel project in the 1930s. Your recollections of the Nolan Brothers contract for lock no. 7 construction give a fuller picture of the times and Corps of Engineers practices as seen from the contractor's point of view.

The interview will be a valuable addition to the St. Paul District records. Thanks again for talking with me.

Sincerely,

Jo Blatti
Oral history consultant

PO Box 704 Owatonna, Minnesota 55060 507/835-7107

HISTORY AFIELD

June 17, 1988

Paul Toren
805 Park Avenue
Mahtomedi, MN 55115

Dear Paul:

Thanks so much for your note: I haven't had time to read it, yet, but I have located a copy of the Buckman book.

Also, I have been meaning to send you thanks for giving me so much time on the morning of the 3rd. It was very helpful to get your overview of Izaak Walton League activities and records in Minnesota. I will be following up on the interview contacts you suggested as time and budget permit, and I will take very good care of the Macalester thesis you loaned.

Sincerely,

Jo Blatti

PO Box 704 Owatonna, Minnesota 55060 507/835-7107

HISTORY AFIELD

June 17, 1988

Elmer J. Christenson
1380 Frankson Avenue
St. Paul, MN 55108

Dear Mr. Christenson:

Thanks again for giving me so much of your time when I came over on June 13th to ask about the 9-foot channel project on the Mississippi. Your recollections of on-site construction matters - and of the St. Paul design section - give a fuller picture of the project and Corps practices in the 1930s.

Thanks again for talking with me. The interview will be a valuable addition to the St. Paul District records.

Sincerely,

Jo Blatti
Oral history consultant

P.O. Box 704 Owatonna, Minnesota 55060 507/835-7107

HISTORY AFIELD

June 17, 1988

Frank L. Daly
3209 Fourth Street, S.E.
Minneapolis, MN 55414

Dear Mr. Daly:

Thanks again for giving me so much of your time when I came over on June 10th to ask about the 9-foot channel project on the Mississippi. Your recollections of construction matters and many of the participants give a fuller picture of the Corps project and of related matters.

Thanks again for talking with me. The interview will be an informative addition to the St. Paul District records.

Sincerely,

Jo Blatti
Oral history consultant

PO Box 704 Owatonna, Minnesota 55060 507/835 7107

SCOPE OF WORK
ORAL HISTORY: MISSISSIPPI RIVER LOCK AND DAM NOS. 3-10

1.00 INTRODUCTION

1.01 The Contractor will undertake an investigation to identify, categorize, rank, and interview individuals who have worked on the construction and/or early operation of the Mississippi River Locks and Dams 3-10 (3, 4, 5, 5A, 6, 7, 8, 9, and 10) as preparation for an oral history of this project. This contract is necessary in order to preserve important information not contained or poorly detailed in written documents. Corps of Engineers personnel (past or present) who are best able to fulfill this objective should receive primary consideration, although individuals who worked under contract with the Corps should also be considered.

1.02. This investigation partially fulfills the requirements of Engineer Regulation (ER) 870-1-1. This regulation establishes the general responsibilities and procedures governing historical programs of field operating activities. Specifically, it states that each Commander will establish an oral history program to conduct interviews with as broad a spectrum of the agency's active and retired personnel as possible.

2.00 PROJECT DESCRIPTION

2.01 The nine locks and dams on the Mississippi River from north of Red Wing, Minnesota, to Guttenberg, Iowa, are the focus of this study. The St. Paul District built Locks and Dams 3-9 in the 1930s, and the Rock Island District constructed Locks and Dam 10 during the same period. This study will increase the public's knowledge about this important project and its effect on the history of the Upper Midwest, Mississippi River navigation, and the United States.

2.02 This study focuses on individuals associated with the locks and dams and what they can contribute about the history of the project through their personal experiences.

2.03 The specific individuals to be interviewed will be determined during Phase I of the project. This phase entails a thorough review of the literature pertaining to the locks and dams, preliminary discussions with current and retired Corps personnel familiar with the project, and discussions with the District's Cultural Resources staff.

2.04 In Phase II of this contract, the Contractor will conduct at least seven interviews with individuals identified under Phase I of this study.

2.05 The Final Phase of this contract will synthesize the first two phases and incorporate changes recommended by the Corps and other agencies.

3.00 DEFINITIONS

3.01 This investigation will include a search for and review of literature pertinent to the history of the Nine-Foot Channel Project, under which the Corps built the locks and dams, as well as the identification, categorization, and ranking of candidates for the oral interviews.

3.02 "Literature search and review" is defined as the identification, review, and evaluation of the relevant literature and records. The purpose of the literature search and review is to provide the Corps with the Contractor's professional opinion on the quality, nature, and extent of the sources available on the history of the project, and to provide the Contractor with an initial list of potential interviewees.

3.03 "Identification" entails identifying those records and individuals likely to provide valuable information on the construction and/or early operation of locks and dams 3-10.

3.04 "Categorization" means separating the oral history candidates into categories on which they are most likely to yield information; i.e., construction, operation, navigation, and environmental effects.

3.05 "Ranking": after the above steps, the Contractor will rank the candidates on the basis of what they could contribute to an oral history of the locks and dams.

4.00 PERFOMANCE SPECIFICATIONS

4.01 The Contractor's work will be subject to the supervision, review, and approval of the Contracting Officer's representative.

4.02 The Contractor will provide all materials and equipment necessary to perform the required services expeditiously.

4.03 If requested by the Contractor, the District will provide a letter of introduction to explain the project purposes and request the cooperation of the interviewees. Where an interviewee denies permission for an interview, the Contractor must immediately notify the Contracting Officer's representative and discuss alternate individuals to be interviewed.

4.05 The Contractor must keep standard records that include cassette tapes and photographs.

5.00 GENERAL REPORT REQUIREMENTS

5.01 The Contractor will submit the following documents, described in this section and Section 6.00: Draft Phase I report, Draft Phase II report, a Final Contract report, and a Popular report.

5.02 The Contractor's draft phase I report will comprise the literature search and review; will detail the approach, methods, and results of the

investigation; and will include recommendations regarding the appropriate topics and questions for the oral history interviews and the relevant individuals to be interviewed. The Contractor and the Corps cultural resources staff will jointly evaluate the draft phase I report and determine which topics, questions, and individuals will best accomplish the purpose of the study.

5.03 The draft phase II report will include the oral interviews, the edited transcripts of the interviews, and an assessment of the new and important information learned from the oral histories. It will detail the approach, methods, and results of the investigation, and make recommendations for further work. It will be submitted to the Contracting Officer's representative, who will review it and forward it to other appropriate agencies for review. Comments will be returned to the Contractor, who will make the necessary revisions and submit the **final contract report.**

5.04 The final contract report will incorporate the revised versions of the phase I and phase II reports in a single volume.

5.05 The Contractor's **phase I and phase II draft reports and final report** will include the following sections, as appropriate to the study. The length of each section depends on the level of detail required of the study and the amount of information available. The reports should be as concise as possible, yet provide all the information needed for evaluating and managing the project, and serve as a guide for future reference.

a. Title page: The title page will provide the following information: the type of study; the project name and location; the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or Principal Investigator; the signature of the Principal Investigator; and the agency for which the report is being prepared.

b. Management summary: This section will provide a **concise** summary of the study, containing all the information needed for management of the project. This information will include the reason the work was undertaken, who the sponsor was, a brief summary of the scope of work and budget, a summary of the fieldwork and editing procedures, the limitations of the study, the results, the significance of the results, recommendations for further work, and the repository for records.

c. Table of contents

d. List of figures

e. List of plates

f. Introduction: This section will identify the sponsors (Corps of Engineers) and their reason for the study and present an overview of the study. It will also define the location and boundaries of the study area (using regional and area-specific maps); define the study area within its

regional cultural and environmental context; reference the scope of work; identify the institution that did the work and the number of people and person-days/hours involved; give the dates when the various phases of the work were completed; identify the repository of records and provide a brief outline of the report and an overview of its major goals.

g. Previous historical studies: This section will briefly summarize and evaluate previous historical research in the study area including the researchers, dates, extent, adequacy, and results of past work.

h. Theoretical and methodological overview: This section will state the goals of the sponsor and the researcher, the theoretical and methodological orientation of the study, and the research strategies that were applied to achieve the goals.

i. Research and analysis methods: This section will explain the methods employed and the reasons for selecting them. It will also describe and justify the specific analytical methods used and discuss limitations or problems with the analysis.

j. Results: This section will describe any historic resources identified during the study.

k. Evaluation and conclusions: This section will formulate conclusions about the Nine-Foot Navigation Project and its importance in terms of local and regional prehistory, protohistory, and history. It will also relate the results of the study to the stated goals; identify any changes in the goals; assess the reliability of the analysis; and discuss the potential of and goals for future research.

l. Recommendations: This section will recommend how many more interviews may be necessary, on which topics, and those individuals most critical to interview.

m. References: This section will provide bibliographic references for every publication cited in the report. References not cited in the report may be listed in a separate "Additional References" section.

n. Appendix: This section will include the Scope of Work, resumes of project personnel, copies of all correspondence relating to the study, and any other pertinent information referenced in the text.

o. Figures: The location of all historic sites and other features discussed in the text will be shown on a legibly photocopied USGS map bound into the report.

5.06 A cover letter submitted with the final contract report will include the project budget.

5.07 The Contractor will submit to the Contracting Officer's representative the negatives for all photographs that appear in the final report.

5.08 The **popular report** will be a brief summary of the study written for the general public. It will be submitted with the draft phase II report, reviewed by the Contracting Officer's representative and, if necessary, revised before resubmission with the final contract report. The writing style should be clear, avoiding the use of technical terms wherever possible; if such terms are used, they should be clearly explained. This report should emphasize the general results of the study and its significance in terms of historic cultural development, rather than detailing methods or descriptive information. The use of illustrations is highly recommended. At the Contractor's request, examples of well-written popular reports can be supplied by the Contracting Officer's representative.

6.00 REPORT FORMATS

6.01 There are no format requirements for the **field notes**; however, they must be legible. If the original handwritten notes are illegible, they should be typed.

6.02 Formats for both the **phase I and I draft reports and the final contract report** are as follows:

a. The Contractor will present information in whatever textual, tabular, or graphic forms are most effective for communicating it.

b. The phase I and phase II draft reports and the final report will be divided into easily discernible chapters, with appropriate page separations and headings.

c. The **report text** will be typed, single-spaced (the draft reports should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches, with 1.5-inch binding and bottom margins and 1-inch top and outer margins, and may be printed on both sides of the paper. All pages will be numbered consecutively, including plates, figures, tables, and appendixes.

d. All **illustrations** must be clear, legible, self-explanatory, and of sufficiently high quality to be reproduced easily by standard xerographic equipment, and will have margins as defined above. All maps must be labeled with a caption/description, a north arrow, a scale bar, township and range, map size and dates, and map source (e.g., the USGS quad name or published source). All photographs or drawings should be clear, distinct prints or copies with captions and a bar scale.

6.03 The **popular report** should follow the basic format requirements specified in Sections 6.02c. and d.

7.00 MATERIALS PROVIDED

7.01 The Contracting Officer's representative will furnish the Contractor with access to any publications, records, maps, or photographs that are on file at the St. Paul District headquarters.

8.00 SUBMITTALS

8.01 The Contractor will submit reports according to the following schedules:

a. Phase I report: Four copies of the draft phase I draft report will be submitted within 90 days after the contract is awarded. The draft contract report will be reviewed by the Corps of Engineers and other appropriate agencies.

b. Project field notes: One legible copy of all the project field notes will be submitted with the draft contract report.

c. Phase II report: Four copies of the draft phase II report will be submitted no later than 60 days following receipt of comments on the phase I report.

d. Final contract report: The original and 15 copies of the final report will be submitted 60 days after the Contractor receives the Corps of Engineers comments on the draft phase II report. The final report will incorporate all the comments made on the draft phase II report.

e. Popular report: Three copies of the popular report will be submitted for review with the draft phase II contract report. The original and 10 copies will be submitted with the Final contract report, incorporating comments made by the Contracting Officer's representative.

9.00 CONDITIONS

9.01 Failure of the Contractor to fulfill the requirements of this Scope of Work will result in rejection of the Contractor's report and/or termination of the contract.

9.02 Neither the Contractor nor the Contractor's representative shall release any sketch, photograph, report, or other materials of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer's representative prior to the acceptance of the final report by the Government. **Dissemination of survey results** through papers at professional meetings and publication in professional journals is encouraged. However, professional discretion should be used in releasing information on site locations where publication could result in damage to cultural resources.

9.03 All materials, documents, collections, notes, forms, maps, etc., that have been produced or acquired in any manner for use in the completion of

this contract shall be made available to the Contracting Officer's representative upon request.

9.04 Principal Investigators will be responsible for the **validity of material** presented in their reports. In the event of controversy or court challenge, the Principal Investigator(s) will be placed under separate contract to testify on behalf of the Government in support of the findings presented in their reports.

NAME: Jo Blatti

ADDRESS: 112 Douglas
St. Paul, MN 55102
612/291-7048

HISTORY AFIELD
P.O. Box 75295
St. Paul, MN 55175-0295

EDUCATION:

A.A. Stephens College, Columbia, Missouri, 1966
B.A. Macalester College, St. Paul, Minnesota, 1968
M.A. American Studies, State University of New York at Buffalo, 1975

FIELDS OF INTEREST: American social and cultural history; interpretive exhibitions, media and events in museums and related institutions; oral history

PROFESSIONAL EXPERIENCE:

*Principal, HISTORY AFIELD, Owatonna & St. Paul, MN, 1986-

A founding member in consulting group offering creative and technical services to museums and other programming institutions, Upper Midwest and nationally. Initiate client contacts, recruit associates, develop marketing, public relations, contracts and budgets, participate as practicing historian in projects, oversight for development and direction.

*Director of Research and Interpretation, Minnesota Agricultural Interpretive Center, Waseca, MN, 1985-1986

Overall responsibilities included development, direction, budgeting of interpretive program for 19th and 20th century farmsteads plus associated structures; work with executive director and board on institutional master plan; supervision of interpretive staff and collections; realization of physical sites, exhibitions and visitor programs; coordination with public relations, development and operations staff plus community volunteers.

*Program Officer, New York Council for the Humanities (New York City and Buffalo), 1978-1985

Proposal development and evaluation public humanities projects, statewide travel & liaison, editing Council publications, organization of several statewide and national conferences. Special interests and responsibilities included historical subjects, interpretive exhibitions and documentary media.

*Producer, Historical projects, WBFO-FM, Buffalo, NY, 1976-1978

Produced two series: The "Buffalo Social History Project," on aspects of work, education and immigration in 19th and 20th century Buffalo, 1976-77 (NEH production grant, Media Division) and "The American Dream," exploring ideas about success, social and economic equality, in 1977-78 (New York Council for the Humanities funding). Both projects featured oral history interviews, dramatic adaptations of diaries, newspapers and other primary source materials, vintage

fiction and music; portions broadcast nationally through NPR. Responsibilities as producer included research, design, fund-raising, liaison with academic collaborators, interviewing, scripting, editing, supervision of technical assistants.

*Part-time producer and administrator, WBFO-FM, 1972-1975

Administrative assistant to general manager, classical disk jockey, producer cultural and public affairs programs, 3rd class FCC license.

*Manager, Falconer Books, Inc., Buffalo, NY, 1968-1972

HONORS AND AWARDS:

Research grant, Minnesota Historical Society, toward development of an oral history project with Minnesota farm families, 1988

Jerome/MCBA Book Arts Fellowship (collaborative project with Sandra Menafee Taylor and Linda Gammell) for Landscape of Hope and Despair, an artist's book exploring physical and human terrain in a southeastern MN farm community, 1988

Sabbatical leave for PAST MEETS PRESENT manuscript preparation funded by L.J. Skaggs and Mary C. Skaggs Foundation, 1985

New York State Council on the Arts Production Grant (Media Arts Division) for radio documentary on F.X. Matt Brewing Company in Utica, NY, 1982

RELATED ACTIVITIES:

Board of Directors, Minnesota Independent Scholars Forum, 1988-

Nominating Committee, Oral History Association, 1987-

Member, Program Committee, Oral History Association, 1987 Annual Meeting, St. Paul

Editor and contributor, PAST MEETS PRESENT, a collection of essays on historic interpretation for public audiences, Smithsonian Institution Press, 1987.

Panelist, Adult and Public Use, Study Center for American Art, Metropolitan Museum of Art, March 1985

Contributing editor for media and public history, Oral History Review, 1984-

Editor, "Selected Proceedings Sleepy Hollow Conference on Historic Interpretation at Outdoor Museums and Historic Sites," 1983. (Joint publication New York Council for the Humanities, Sleepy Hollow Restorations, Gallery Association of New York)

"I Don't Want To Play in Your Yard"
Review of the movie "Reds" in Radical History, Fall 1982

SITES Seminar on Exhibition Interpretation, Smithsonian Institution, Washington, D.C., November 1981

Guest panelist, Museum Aid Division, New York State Council on the Arts, December 1980

Field reviewer, Museum Aid Division, New York State Council on the Arts, 1979

Social history consultant, National Public Radio, Washington, D.C., Fall/Winter 1978 - 1979

Oral history consultant, Milwaukee Humanities Program, University of Wisconsin - Milwaukee, Spring 1978

Member, Planning Group, New York State Conference on Community History, 1978

Outside evaluator, Rochester Genesee Valley History Project, pilot project in the uses of local historical materials in high school and college curricula and community, museum and media programs 1977 - 1978

Contributor, "Down and Out in America," cover story New York Times Magazine, February 9, 1978

Founding member, Buffalo Community Studies Group (Executive Committee, 1974 - 1979)

Course design and teaching, SUNY/Buffalo, American Studies undergraduate core course, "Patterns in American Cultural Development," 1973 - 1974

PRESENTATIONS: National Council on Public History Annual Meeting
Denver, Colorado
March 1988
Presenter, "Rehabilitation, Presentation and Interpretation of the Mississippi River Locks and Dams, Minneapolis to Guttenberg, Iowa"

Association for Living Historical Farms and Agricultural Museums
Ann Arbor, Michigan
June 1987
Moderator, Panel on Academic Goals and Museum Programs

Oral History Association of Minnesota
St. Paul, Minnesota
February 1987
Leader, Advanced Workshop, "The Project Approach to Oral History"

American Historical Association Annual Meeting
Chicago, Illinois
December 1986
Comment, "Scholars and the Media"

Oral History Association Annual Meeting
Long Beach, California
October 1986
Panelist, "Summing Up the Transformation of the West"

Midwest Archives Conference
Hudson, Wisconsin
October 1986
Chair and comment, "After the Interview: Using Oral History"

American Association of Museums Annual Meeting
Washington, D.C.
June 1984
Panelist, "History Museums and Interpretation"

Sixth Berkshire Conference on the History of Women
Smith College
June 1984
Chair and comment, "Not Just Another Pretty Dress"

NYU Graduate Program in Public History
December 1983
Guest lecturer, "Public History and the Media"

American Studies Association
Biennial Convention, Philadelphia
November 1983
Chair and comment, "Social Space in Historical Perspective: New Approaches and Methods"

Seneca Falls Women's History Conference
Seneca Falls, NY
July 1982
Presenter, "Women and Work"

NEH Summer Seminar, "Historians, Universities and Communities"
Cornell University
July 1982
Guest scholar, "Public Presentation of Historical Research"

NYU Graduate Program in Public History
April 1982
Guest lecturer, "Oral History and Community History"

National Meeting of State Humanities Programs
Indianapolis
November 1980
Presenter, Workshop on Radio Projects

Organization of American Historians Annual Meeting
San Francisco
April 1980
Commentator, "The Public Perception of History"

Oral History Colloquium
East Lansing, Michigan
October 1979
Presenter, "Oral History on the Air"

Humanities Media Workshop
University of Delaware
May 1979
Presenter, Session on Humanities Programming for Radio

Empire State College Conference, The Growth and Development of an American City: Buffalo
February 1977
"Using Oral History", panelist and workshop leader

ORGANIZATIONAL MEMBERSHIPS:

American Association for State and Local History
American Studies Association
Minnesota Association of Museums
Oral History Association
Organization of American Historians